parties' mutual dealings, the multiple changes in routes and, above all, the far-reaching implications of the Secretary's ultimate decision for the public and for the environment, the equities in this case weigh strongly against a summary dismissal on the basis of an alleged procedural technicality.

In sum, Millennium not only agreed to, but also by its own acts and omissions contributed to, the timing of the consistency review process. Because NYSDOS issued its decision in a timely fashion, the Secretary must dismiss Millennium's request for a procedural override.

III. Ground I -- The Secretary Should Uphold The NYSDOS Objection Because The Millennium Pipeline Is Not Consistent With The Objectives Or Purposes Of The CZMA.

Millennium demands that the Secretary override the NYSDOS Objection on the basis of Ground I, claiming that the pipeline is "consistent with the objectives of the CZMA."[41] To satisfy the requirements of Ground I, Millennium must establish the following three elements: (1) "The activity furthers the national interest as articulated in § 302 or § 303 of the Act, in a significant or substantial manner" ("Element "); (2) "The national interest furthered by the activity outweighs the activity's adverse coastal effects, when those effects are considered separately or cumulatively" ("Element 2"); and (3) "There is no reasonable alternative available which would permit the activity to be conducted in a manner consistent with the enforceable policies of the [state's coastal] management program" ("Element 3").[42] As detailed below,

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41 Millennium Initial Brief at 19.

42 15 C.F.R. § 930.121 (2002).

Millennium cannot establish these three elements; therefore, the Secretary must find that the pipeline is not consistent with the objectives of the CZMA under Ground I.

A. Preliminary Matter -- Millennium's Reliance On FERC Is Misplaced.

As a preliminary matter, much of Millennium's Ground I argument is based upon the premise that FERC's "approval" of the pipeline under the Natural Gas Act ("NGA") should pre-determine the outcome of this appeal. Throughout its brief, Millennium repeatedly cites to the FEIS and FERC's certification as somehow precluding any independent review of coastal issues. This puzzling "FERC *über alles*" argument is legally unsupported and wrong. The CZMA prohibits FERC from approving the pipeline before Millennium has demonstrated compliance with the requirements of the CZMA.[43] Although FERC contends it may side-step this requirement by *conditionally* approving the pipeline, FERC does recognize that CZMA compliance is an independent legal obligation, jurisdiction over which Congress has placed with the states in the first instance, and thereafter on appeal with the Secretary.[44] Thus, with regard to coastal resource matters, the Secretary should not -- and indeed cannot -- accord deference to FERC's conditional certification under the NGA.

Nor does the FERC's review pursuant to the National Environmental Policy Act ("NEPA") foreclose the Secretary's discretion to independently review coastal issues on appeal in this case. Not only was FERC's analysis of the pipeline's coastal impacts flawed and inadequate (NOAA itself noted that none of FERC's several public hearings addressed coastal

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[43] 16 U.S.C. § 1456(c)(3)(B) ("*No Federal official or agency* shall grant . . . any license or permit for any activity . . . *until* such state or its designated agency receives a copy of such certification and plan . . and *until* such state of its designated agency . . .concurs with such person's certification and notifies the Secretary and the Secretary of the Interior of such concurrence.")

[44] *See Shanty Town Assoc. Ltd. Partnership v. EPA*, 843 F.2d 782, 792 (4th Cir. 1988) (stating that Congress "intended ultimate responsibility of land use to remain with the states").

issues)[45], a NEPA review is no substitute for the mandatory substantive review processes of the agencies with direct jurisdiction over coastal resources.

Millennium claims that because FERC approved the project and FERC is the sole authority in natural gas pipeline decisions, the decision must stand. But this is a misunderstanding of the CZMA's function and procedure. Although it is true that Congress has entrusted the FERC with the authority to make decisions about "whether and where to permit the construction of interstate gas pipelines," the FERC is not given *exclusive* authority to balance environmental interests *when coastal resources are impacted by such a project.* In such a case, it is the state agency or department that is charged with such authority by virtue of the CZMA, and it is the state agency, not FERC, that has expertise in issues relating to the coastal zone.[46] In fact, the entire purpose of the CZMA is a type of federalism "checks and balances" system to ensure that coastal resources are properly preserved through independent oversight by the *state* agency -- here, NYSDOS -- designated by the *state* to protect valuable coastal resources.[47] This is the system that Congress intended in passing the CZMA; neither FERC nor any other permitting federal agency is given "exclusive jurisdiction" over the granting of a permit for any activity or project, and the Secretary should not feel compelled to defer to the FERC's decisions.

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45 Letter from James R Walpole, NOAA, to Neil L. Levy, Kirkland & Ellis (Aug. 16, 2002) (approving Village's request for a public hearing).

46 For example, the CZMA expressly prohibits federal agencies from granting permits or licenses unless the state has approved the project: "No license or permit shall be granted by the Federal agency until the state or its designated agency has concurred with the applicant's [consistency] certification. . . ." 16 U.S.C. § 1456(c)(3)(A); *see also Mountain Rhythm Res. v. FERC*, 302 F.3d 958, 964 (9th Cir. 2002) (noting that "issues of topography, water flow, and its effect, if any, on coastal environments . . . are not generally within the mission and expertise of FERC").

47 *Secretary of the Interior v. California*, 486 U.S. 312, 316 (1984) (noting that Congress designed the CZMA to "encourage prudent management and conservation of natural resources in the coastal zone" and aspired to "promote cooperation between federal and state agencies engaged in programs affecting the coastal zone").

B. Element 1 -- The Millennium Pipeline Does Not Further Any Of The National Interests Articulated In The CZMA In A Significant And Substantial Manner.

The first element of Ground I requires that: "The activity furthers the national interest as articulated in § 302 or § 303 of the Act, in a significant and substantial manner."[48] Millennium claims there are four ways in which its proposed pipeline significantly and substantially furthers the national interests set forth in Sections 302 and 303 of the CZMA. First, Millennium submits that its Project will further the national interest by virtue of the fact that it involves "siting a major energy transportation facility."[49] Second, Millennium argues that the pipeline will contribute to the national objective in achieving a greater degree of energy self-sufficiency.[50] Third, Millennium claims that the pipeline will facilitate "compatible economic development" of the coastal zone.[51] And fourth, Millennium asserts that the pipeline will actually "protect and enhance coastal zone resources."[52] None of these reasons are convincing.

1. The CZMA Does Not Support Millennium's Assertion That The "Siting Of Energy Facilities" *Per Se* Furthers The National Interest.

Millennium argues that the Project satisfies Element 1 and will further the national interest because it involves "siting a major energy transportation facility."[53] Millennium's argument is, essentially, that all projects related to the siting of energy transportation facilities

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48 15 C.F.R. § 930.121(a) (2002).

49 Millennium Initial Brief at 22.

50 *Id.* at 30.

51 *Id.* at 32.

52 *Id.*

53 *Id.* at 22.

automatically further the national interest in a significant and substantial manner. Although Element 1 requires the Project to further a national interest "articulated in § 302 or § 303 of the Act," Millennium is unable to cite to any language in these sections in support of its argument, and instead cites to preamble language in the Federal Register notice published together with the CZMA regulations.[54]

Millennium mischaracterizes the CZMA as somehow mandating that "priority consideration" be accorded to its proposal because it is a "major energy facility." In Millennium's view, every individual proposal to construct an energy facility in the coastal zone must be approved on the grounds that development of energy facilities *per se* is an objective of the CZMA and that states must give "priority consideration" to such proposals.

In fact, nothing in the CZMA mandates "priority consideration" for Millennium. By selectively picking and choosing language from the CZMA, Millennium misses the point of the CMZA. The full text of the CZMA requires that:

> . . . [Coastal management] programs should at least provide for . . . priority consideration being given to coastal-dependent uses and orderly processes for siting major facilities related to national defense, energy, fisheries development, recreation, ports and transportation, and the location, to the maximum extent practicable, of new commercial and industrial developments in or adjacent to areas where such development already exists.[55]

Millennium interprets this language as somehow *mandating* that state agencies streamline the approval of energy project proposals, regardless of their location or their impacts. But when read in context, Section 303 is hardly a mandate for state agencies to "fast track" pipelines and gloss

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[54] *Id.* at 23.

[55] 16 U.S.C. § 1452 (2002).

over environmental concerns. To the contrary, this provision requires "priority consideration [be] given to *coastal-dependent uses.*" This provision emphasizes "the location, to the maximum extent practicable, of new commercial and industrial developments *in or adjacent to areas where such development already exists.*"[56] Millennium's pipeline is not a coastal-dependent use and is proposed to be installed in portions of the coastal zone where no such development currently exists (*e.g.*, the Haverstraw Bay and the Croton River).

Millennium's characterization of its pipeline as a "coastal-dependent use" comes merely by virtue of the fact that it is proposed to be built across the State of New York, a coastal state. If that were a test of "coastal-dependent use" under the CZMA, *every* pipeline proposed in a coastal state would be a coastal-dependent use.

Unlike other types of energy facilities, such as continental shelf production, wells or associated shipping facilities, the proposed pipeline has no inherent "need" to be located in the coastal zone, much less to cross through two of the most ecologically significant portions of the coastal zone, Haverstraw Bay and the Croton River.

Nor can Millennium claim to be a "water-dependent" facility under the Village's LWRP. LWRP Policy 2 describes the kinds of uses the Village considers "water-dependent."[57] Water-dependent facilities are those that "depend on the utilization of resources found in coastal waters," recreational, scientific, or educational activities that "by nature require access to coastal waters," and flood/erosion protective structures.[58] When reviewing the Millennium Project to

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56 *Id.* (emphasis added).

57 LWRP at III-5.

58 *Id.*

determine whether it should recommend that the project is consistent with the LWRP's policies, the Village's Waterfront Advisory Committee ("WAC")[59] did not find anything in Policy 2 that would allow the siting of this proposed pipeline in the coastal zone. The WAC also noted that the Millennium Report's response on Policy 2 conceded that the project does not involve a water-dependent use.[60]

Furthermore, the Millennium pipeline does not meet the CZMA goal of siting new developments in or adjacent to already-developed areas. As noted, one of the goals of the CZMA is to site "the location, to the maximum extent practicable, of new commercial and industrial developments in or adjacent to areas where such development already exists."[61] The Millennium Project would traverse previously untouched land. Of note, a number of the alternatives suggested later in this Brief do meet this goal, and therefore alternatives that *are consistent* with the CZMA do exist.

2. Millennium's Project Is Not Necessary To Meet The Nation's Energy Needs.

Millennium asserts in its Initial Brief: "In short, the record before the FERC and the NYSDOS (and now before the Secretary) shows an increasing demand for natural gas in the Northeast that would be served by the Millennium project."[62] Not only is the "increasing demand" not as severe as Millennium and the outdated sources it cites would suggest,

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59 The WAC is the committee charged with reviewing projects to determine whether they are consistent with the LWRP.

60 Millennium's March 2001 New York State Coastal Zone Consistency Determination prepared by Lawler, Matusky & Skelly Engineers, L.L.P., at 26 ("Millennium Report").

61 16 U.S.C. § 1452.

62 Millennium Initial Brief at 29.

Millennium's pipeline is not necessary to serve any potential increased energy needs. As discussed below, the amount of expected new pipeline capacity already exceeds projected need.

Millennium argues that, notwithstanding the coastal impacts, its pipeline must be built to meet the region's energy needs. The facts do not support Millennium's argument. Other companies have announced plans to develop over 4,500 megadekatherms per day ("MDT/D") of new pipeline capacity to serve the Northeast and New York regions. New York's "2002 State Energy Plan and Final Environmental Impact Statement" ("NY Energy Report") suggests that this is several times the projected need for new capacity, indicating that the Millennium Project is *not* needed to meet projected increased demand.

Even assuming that there is a need for additional energy in the region, this does not justify leaping to the conclusion that *this* pipeline is needed or that this particular route is the *only* way to meet those needs. The question is *not* whether there will be an increased demand for natural gas; rather, the appropriate question is whether the *Millennium Project* is needed to meet that increased demand (or to provide supply diversity or to increase competition). Millennium's argument fails to address this issue.

A proper analysis would compare projected need for, and projected increase in, pipeline capacity (not including the Millennium Project), and determine whether the projected increase in pipeline capacity is sufficient to meet the projected need. Millennium's Initial Brief, however, fails to provide any specific data for the projected need and nowhere discusses alternative pipeline projects currently being constructed or that have been announced.

There is little excuse for this omission. The recent New York Energy Report provides most of the data necessary for such an analysis:

> Natural gas demand is expected to increase significantly, especially to generate electricity. Plans to build about 15,000 MW of new gas fired generation have been announced in New York. These plants combined would require about 2,500 thousand dekatherms of gas per day (MDT/D) if operating at full capacity. Not all of these plants will be built (some have been canceled or delayed) and, as explained later, [the study] indicates that far less incremental natural gas pipeline capacity will actually be needed.[63]

In other words, a *liberal* assessment of needed new capacity would be 2,500 MDT/D. In actuality, however, far less is likely to be required. Indeed, the NY Energy Report cites a NYSERDA-NYISO study that examined the need for additional pipeline capacity:

> As a starting point, for the year 2002, the analysis assumes that electric generation and natural gas system expansion projects currently under construction, or expected to be in service through 2003, are completed. This includes a new increase in electric generating capacity of 527 MW and an increase in natural gas pipeline capacity of 465 MDT/D. Most of this gas pipeline capacity increase (395 MDT/D) is to the downstate market. This represents approximately a 12% increase in pipeline capacity to the downstate market since November 2001.[64]

Using that as its starting point, the study then developed a matrix of projected results if an additional 1,030 MW to 5,015 MW of electric generation capacity is installed, and between 0 and 800 MDT/D of additional pipeline capacity is added. The study concluded:

- If no post-2003 pipeline expansion projects are built, the existing gas and oil systems will be adequate to meet all generation scenarios.

  Pipeline capacity additions of between 300 MDT per day and 800 MDT per day would provide additional benefits to the electricity and natural gas systems, including enabling the use of larger quantities of cleaner-burning natural gas and providing better contingency protections.

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63 NY Energy Report at 3-153 through 3-154 (citations omitted).

64 *Id.* at 3-174 through 3-175 (citations omitted).

- If 800 MDT per day of post-2003 pipeline capacity are built into the downstate New York area, gas could meet 100% of all generation scenario fuel needs.

- If fewer pipeline expansions and/or less additional generating capacity are added, a substantial portion of the maximum potential gas demand for generation can be met. Some oil would be burned, but the total annual oil burn in all cases in 2005 would be less than the amount burned in 2000 and 2001.[65]

Thus, a reasonable (and generous) projected need, for purposes of evaluating the Millennium Project, is 800 MDT/D of additional capacity.

Next, Millennium should have examined the projected amount of additional capacity from other pipeline expansions designed to serve the region. For example, the NY Energy Report states that the following pipelines have *already* been approved, representing more than 1,200 MDT/D of additional capacity:

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[65] *Id.* at 3-177 (citations omitted).

	PROJECTS THAT HAVE ALREADY BEEN APPROVED[66]
MarketLink Phase I & II	The MarketLink projects will expand capacity of the existing Transco Leidy line, which extends from storage facilities in Leidy, PA to the New York City market, in two phases. Phase I increased capacity by 115 MMCFD to New York City in December 2001. Phase II will increase capacity by 130 MMCFD to New Jersey and Pennsylvania by November 1, 2002. . . . MarketLink was proposed as the final link to bring Western Canadian and Midwestern gas supplies to the East Coast.
Stagecoach	This project involves development of a new 12 MMDT storage facility in Tioga, NY and Bradford, PA. In addition, Tennessee constructed a new 23.7 mile, 30-inch diameter pipeline connecting this storage field to its "300 line" in PA. A new 4.7 mile, 12-inch diameter lateral would be built from this storage facility to the proposed Twin-Tier power plant in Owego, NY. The storage facility has withdrawal rates of up to 500 MDT/D and injection rates of up to 250 MDT/D. Tennessee also expanded capacity on that line to NJ by 100 MDT/D. . . . All of these facilities went into service in December 2001.
Hanover Compressor	[Algonquin Gas Transmission] and TETCO filed a joint application to increase the ability of TETCO to deliver gas to New York City by 135 MDT/D. This was accomplished by adding compression to AGT's existing compressor station in Hanover, NJ, allowing TETCO to shift some of its existing deliveries to AGT from the Lambertville, NJ interconnect. . . . [T]he facilities were placed in-service in November 2001.
Leidy East	The Leidy East project involves looping and added compression in PA and NJ to expand the capacity of Transco's Leidy line by 120 MMCFD. . . . [T]he proposed in-service date is November 2002.
Dracut Expansion	Tennessee's Dracut Expansion Project will increase its ability to move gas from Dracut, MA to the west by 200 MDT/D. . . . This project . . . has an expected in-service date of fall 2002.
Iroquois' Eastchester Expansion	Involves construction of 33 miles of 24-inch pipe from the existing Iroquois mainline at Northport, LI to the Bronx, NY where it will interconnect with the Con Edison system. This project will increase capacity by 230 MDT/D, primarily for electric generation customers, with an expected in-service date of Spring 2003.
Maritimes & Northeast Extension and Hubline	The Maritimes & Northeast Extension will be a new 25-mile pipeline extending Maritimes from Methuen to Beverly, MA. This line will interconnect with the Hubline pipeline, a new 29-mile, 24-inch diameter pipeline that would extend from Beverly, MA across Boston harbor to an onshore interconnection with AGT's existing facilities in Weymouth, MA. Hubline would have a capacity of 300 MDT/D. Both of these projects . . . have a proposed in-service date of November 2002.

In addition to these already-approved projects (representing approximately 1,200 MDT/D of capacity), the Report cited several other additional proposed projects besides the Millennium proposal:

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66 The NY Energy Report also cited the Independence Pipeline project, which was scheduled to extend a proposed pipeline 370 miles from Defiance, OH to Transco's facilities at Leidy, PA, and have 916 DTH/D of capacity. In June 2002, however, the Independence Pipeline Company filed to vacate its certificate after failing to be able to subscribe enough shippers. *See Independence Pipeline Co.*, 100 FERC ¶ 61,082 (2002).

	PROPOSED PROJECTS
Islander East Project	One of three projects proposed to connect existing interstate pipeline to a point on eastern Long Island. Islander East would consist of approximately 45 miles of new 24-inch diameter pipe from a point near Cheshire, CT, where it will interconnect with the existing AGT mainline, across the Long Island Sound to the town of Brookhaven, NY. Islander East will have an initial capacity of 285 MDT/D, with a proposed in-service date of November 2003. FERC issued a favorable Draft Environmental Impact Statement ("DEIS") to Islander East in March 2002.
Connecticut-Long Island Lateral Project	Would consist of approximately 50 miles of new pipeline connecting the existing Tennessee Pipeline near Agawam, MA, to Long Island. . . . The proposed in-service date is November 2003 and the proposed capacity is 450 MDT/D.
Iroquois Eastern Long Island Expansion Project	Would consist of approximately 20 miles of submarine pipe under Long Island Sound from Iroquois' existing mainline in Milford, CT, to Shoreham, Long Island. The proposed capacity is 175 MMCFD and the proposed in-service date is November 2004.
Texas Eastern Incremental Market Expansion	The TIME project would expand the capacity of the TETCO system by 100 MDT/D (through compression and looping) for delivery to New Jersey Natural Gas Company. The project has . . . an expected in-service date of November 2002.
Maritimes & Northeast Expansion	Maritimes & Northeast Pipeline have filed . . . to nearly double capacity of the existing Maritimes' pipeline from 415 MDT/D to 800 MDT/D, for service in the 2003-04 time frame.
Iroquois Athens	This project is comprised of a second compressor unit (10,000 hp) that would be located at Iroquois' existing compressor station at Athens, New York. The added compression would provide 70 MDT/D of capacity for the Athens Generating Company. . . [The project has a] proposed in-service date of September 2003.
Iroquois Brookfield	This project is comprised of a new 10,000 hp, compressor station to be located adjacent to Iroquois' existing Brookfield, CT meter station. The added compression would provide 25 MDT/D of capacity for PP&L Energy Plus LLC (a marketing company) and up to 60 MDT/D for Astoria Energy Company. . . [This project has a] a proposed in-service date of November 2003.
ConneXion Project	Tennessee's ConneXion project involves expanding storage capacity in Pennsylvania and expanding its delivery capacity from those storage areas to New York City by about 500 MDT/D. Tennessee . . . expects the facilities to be in-service by November 2004.
Northwinds Pipeline	Would be a new 215-mile, 30-inch pipeline extending from Kirkwell, Ontario, across the U.S. near Buffalo, NY and following a southerly route to the Ellisburg-Leidy storage area in Pennsylvania. It would have an initial capacity of 500 MDT/D and provide shippers access to the Dawn, Ontario hub and storage facilities. Northwinds . . . [has] a target in-service date of late 2004.
Blue Atlantic Project	El Paso Corporation has announced plans for a new approximately 750 mile, 36-inch pipeline from offshore Nova Scotia to Long Island. It would have an initial capacity of 1,000 MDT/D . . . . El Paso anticipates . . . a targeted in-service date of late 2005.[67]

[67] NY Energy Report at 3-166 through 3-171 (citations omitted).

The above lists demonstrate the substantial amount of new pipeline capacity -- not including Millennium's proposal -- that is already planned to serve the Northeast markets, New York in particular. These proposals contain a number of interesting characteristics:

- Many proposals are expansions to, or extensions of, existing pipelines. These types of proposals limit the potential negative impact on communities and the environment, while allowing for substantial increases in capacity.
- The projects increase supply diversity by increasing access to natural gas from the Midwest, western and eastern Canada, Nova Scotia, and increasing interconnections with pipelines that have access to natural gas from the Gulf of Mexico.
- These projects provide increased storage capabilities in the Northeast.
- Many of these projects are designed to serve electric generation facilities in either the Northeast or New York City.
- These projects will increase capacity in the Northeast by more than 4,500 MDT/D. They will bring approximately 1,100 MDT/D of pipeline capacity to the New York City markets.[68]
- The large number of pipeline alternatives and supply sources, combined with already existing pipelines and sources, ensures that there will be significant competition in the future.

It is likely that some of the pipelines listed above may not be built, otherwise there would be an oversupply of available capacity. However, one thing is clear: whether one uses a projected need of 800 MDT/D or 2,500 MDT/D, the projected increase in available capacity is *multiples* of the expected need.

Thus, returning to the question at hand: is the Millennium Project needed to meet the region's demands for pipeline capacity? The NY Energy Report's answer suggests strongly that the answer is no. The other planned projects, which are expected to be in-service before

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[68] In addition, another 1,900 MDT/D would be delivered to the Long Island region.

Millennium, will provide more capacity, competition, and access to supply markets than Millennium. Moreover, because many of the proposals expand existing pipelines, they will do so at far less cost to the community or environment than the Millennium Project. The Secretary should not accept Millennium's broad statements of need, but examine the totality of evidence which supports the conclusion that the Millennium Project is not crucial to meeting the region's energy requirements.

3. The Pipeline Will Not Serve To Promote "Compatible Economic Development" Of The Coastal Zone.

One purpose of the CZMA is to encourage "compatible development" of the coastal zone. In Millennium's view, every energy-related proposal would be permitted as "compatible." This reflects a fundamental misunderstanding as to how the CZMA works. The CZMA directed states to undertake a planning process to guide the development of the coastal zone and ensure that development does not compromise environmental goals. These planning policies and guidelines were then embodied in the states' CMP. Pursuant to this CZMA-mandated planning process, the State of New York specifically set aside the Haverstraw Bay and Croton River and Bay areas for special protection in its CMP and prohibited dredging and other destructive activities in these areas as being incompatible with the objectives of the CZMA.

Millennium claims that the project will "facilitate 'compatible economic development' in the coastal zone by providing . energy infrastructure . ."[69] But routing a pipeline through sensitive habitats does not constitute compatible development of the coastal zone. Millennium would not "develop coastal resources" at all. Millennium seeks only to pass through the coastal zone to transport natural gas to areas outside of the coastal zone, not to develop off-shore oil or

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69 Millennium Initial Brief at 32.

gas reserves or the like. Coastal resources are merely an obstacle to getting gas to Millennium's customers.

In *Virginia Electric and Power Co.*, the Secretary permitted a water-supply pipeline that did not itself develop resources on the coast. The Secretary found that the project would encourage development of homes and businesses in the coastal zone, and therefore the project met the goals of the Act.[70] In contrast, Millennium's pipeline would not encourage development of the coastal areas which it will be adversely impacting. The pipeline will deliver no natural gas to the Haverstraw Bay or Croton River zones at all; it will merely plow through these ecologically sensitive areas bound for elsewhere.

4. The Pipeline Will Not Protect And Enhance Coastal Zone Resources.

Millennium's declaration that the pipeline will not only preserve and protect, but actually *enhance* the resources of the coastal zone defies common sense. Millennium proposes to use blasting techniques to construct the pipeline, proposes to route the pipeline through environmentally sensitive areas, proposes to traverse wetlands, and proposes to invade to Village's Wellfield.

In support of its claims of enhancing the coastal zone, Millennium cites to the FEIS. But FERC's analysis of coastal issues was deficient. In its Final Order, the FERC stated: "The EIS, however, is not intended to exhaustively analyze all issues arising under New York's Coastal Management Plan or other issues arising under the CZMA. Rather, those issues arise under the CZMA and are to be considered in the NYSDOS consistency determination under that statute, which was done, resulting in the May 9, 2002 objection by the NYSDOS to the consistency

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70 *Virginia Elec. and Power Co.*, 1994 NOAA LEXIS 31 (May 19, 1984).

certification for Millennium."[71] Thus, Millennium's reliance on FERC fails to provide the necessary support for its argument.

Other agencies with jurisdiction over natural resource matters, on the other hand, have voiced serious objections to the project. The district engineer of the U.S. Army Corps of Engineers stated: "I also have substantial concerns about the environmental impacts of the proposed Hudson River crossing, similar in nature to those expressed by DOS. As a result, I must consider whether a permit authorizing the proposed project might compromise the public interest."[72] He continued, stating that all of the alternatives suggested by the NYSDOS in its consistency objection "would largely address his concerns."[73]

Thus, Millennium has failed to meet its burden of showing that its proposal will preserve and protect -- let alone enhance -- the affected coastal areas.

C. Element 2 -- The Project's Impacts on Haverstraw Bay, The Village's Well Field, The Jane E. Lytle Memorial Arboretum, And Other Coastal Resources Are Significant; Any Purported Benefits Do Not Outweigh These Adverse Impacts.

1. The Pipeline Will Have an Adverse Impact on Haverstraw Bay.

According to Millennium, the pipeline's impact on the Haverstraw Bay area "will be minimal and temporary."[74] But in fact, the pipeline will result in permanent and substantial impacts to the Haverstraw Bay, even with Millennium's proposed mitigation measures.

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71 Final Order, 100 FERC at 62,166.

72 Letter from John B. O'Dowd, ACOE, to Richard E. Hall, Millennium, at 2 (Aug. 13, 2002).

73 *Id.*

74 Millennium Initial Brief at 38.

a. Description of Haverstraw Bay.

The proposed pipeline would cross the Haverstraw Bay at a location immediately to the north and upstream of the Village's boundary. New York State has designated the Haverstraw Bay a "Significant Coastal Fish and Wildlife Habitat." This designation is not a "strained and arbitrary" label.[75] Numerous scientific studies have documented the unique nature of the Bay and the critical role it plays in the Atlantic coast's ecosystem. Factors such as the Bay's wide, shallow geology and its tendency for much of the year to be the location of the salt gradient where fresh water and ocean water mix to give rise to a brackish environment, make Haverstraw Bay the ecological "engine' of the Hudson estuarine ecosystem. The NYSDOS habitat documentation for the Bay rates it as an "irreplaceable" estuarine ecosystem and describes it as a "major spawning, nursery, and wintering area for various estuarine fish species" having 'population levels unusual in the northeastern U.S."[76] The Bay is home to the federally-listed endangered shortnose sturgeon, and has been designated by the National Marine Fisheries Service ("NMFS") as Essential Fish Habitat for numerous other species.

While the Bay is a valuable ecological resource, it is not in pristine condition. Over the years, factories have dumped substantial amounts of carcinogenic and toxic chemicals into the Hudson River. Some of these pollutants have settled on the bottom of the Haverstraw Bay, and there is a real risk that construction in the area, particularly in the shallow portions of the eastern side of the Bay, may disturb those pollutants and resuspend them in the Haverstraw Bay's waters and the Hudson River.

Id.

76 LWRP at II-51

b. Millennium's Dredging Will Harm The Bay.

Millennium attempts to downplay the extent and severity of impacts that dredging will have on the Bay, claiming that the staged, open-water, lay-barge technique "maximally limits adverse effects to aquatic resources."[77] Millennium proposes to install the pipeline directly across the Haverstraw Bay by dredging an open trench, installing the pipe, and then backfilling. Even using these technologies, however, it is likely that the pipeline will cause "takings" of endangered shortnose sturgeon and will destroy and/or significantly impair portions of the designated Significant Coastal Fish and Wildlife Habitat, including portions of the benthic communities upon which the sturgeon and other species rely.

Moreover, Millennium's claim that the "pipeline footprint will affect only a minute portion -- 0.08% -- of the 'functional' habitat" is misleading.[78] The *impact* of construction will extend far beyond the actual "footprint" because the dredging of the riverbed will resuspend large amounts of sediments, increase turbidity, disrupt species, and impact the scenic nature of the Bay. These impacts will not be limited to the construction site, but will be carried by the currents to other portions of the Haverstraw Bay, and further downstream in the Hudson River.

This issue is important due to the presence of hazardous chemicals that have accumulated on the bed of the Haverstraw Bay -- chemicals that are likely to be stirred up by the dredging and suspended in the water as a result of the construction. Unfortunately, the issue of contamination in Haverstraw Bay sediments is not fully reflected in the public record, which has become skewed by a premature Section 401 certification by the New York State Department of

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[77] Millennium Initial Brief at 39.

[78] *Id.* at 42.

Environmental Conservation ("NYSDEC") and a highly misleading depiction of sediment conditions by Millennium. The O'Brien & Gere report on its consistency evaluation of the pipeline ("OBG Consistency Report")[79] criticizes what appears to be the conscious failure on Millennium's part to acknowledge the documented presence of polychlorinated biphenyls ("PCBs") throughout the lower Hudson, including the area of the proposed Haverstraw Bay crossing. Under pressure from the NMFS, the FERC has recently conceded that dredging will result in the resuspension of contaminated sediments and will "increase bioaccumulation and decrease biological productivity of the fish and invertebrate communities present in the immediate vicinity of the proposed crossing."[80] Millennium's own data (which may be suspect for the reasons described in the OBG Consistency Report) indicates at least the presence of elevated levels of various heavy metals. Millennium's brief fails to address these issues or discuss the potential adverse affects if these pollutants are disturbed.

Instead, Millennium cites the NYSDOS' approval of U.S. Gypsum Company's maintenance dredging in the Haverstraw Bay.[81] Millennium is attempting to argue that if other parties' dredging in the Haverstraw Bay is permissible or does not result in permanent damage, then it is reasonable to assume that Millennium's construction will not harm the Haverstraw Bay. However, Millennium's argument is flawed. Because of the underwater topography of the Haverstraw Bay, certain portions of the Bay are more environmentally sensitive and are of greater importance. For example, in the U.S. Gypsum decision, the NYSDOS noted that dredging an existing deep channel on the west side of Haverstraw Bay would have less impacts

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79 OBG Consistency Report at 4 (attached as Exhibit 2).

80 Letter from David P. Boergers, FERC, to Chris Mantzaris, NMFS (June 1, 2001).

81 Millennium Initial Brief at 39.

on endangered shortnose sturgeon, which tend to inhabit the shallower, less disturbed portions of the Bay along the eastern shore. Millennium's proposed pipeline, however, is distinguishable in that it would trench through the previously untouched shallow parts of Haverstraw Bay. In other words, Millennium cannot simply point to past dredging to demonstrate that it is feasible to dredge the Haverstraw Bay; it must also examine exactly where and how those other parties dredged the Bay and compare that to its own proposal.

c. Millennium's Blasting Techniques Will Harm The Bay.

Millennium's intent to conduct underwater blasting within the Significant Habitat of Haverstraw Bay is a recent development that raises serious concerns not only about the pipeline's impacts, but also about the reliability and veracity of the entire environmental assessment that has been done to date. Regarding the impacts of blasting, Millennium makes the statement that blasting "will not result in any impacts of ecological significance."[82] Yet, Millennium's own description of the blasting operations -- which will take place in a previously undisturbed section of the designated Significant Habitat -- indicates that it will involve: the removal of surface sediment; the detonation of up to 200 boreholes 6 to 1 feet in depth with 35 pound explosive charges; and the removal of 260 cubic yards of fractured rock (not including the unspecified volume of surface sediment) from a 185-foot section of the Habitat.[83]

Blasting in the eastern portion of the Haverstraw Bay will have detrimental effects on both the species found there such as the endangered shortnose sturgeon and the shallow benthic habitat itself. NMFS stated regarding the shortnose sturgeon: "The presence of adults and/or

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82 *Id.* at 54.

83 *Id.* at 52.

juveniles in the vicinity of the blasting area could result in direct injury and/or mortality."[84] NMFS goes on to name several possible direct consequences that blasting could have on this endangered species, including swimbladder ruptures, distended intestines with gas bubbles, and hemorrage to the body wall lining." The mitigation measures proposed by Millennium may minimally reduce destruction of fish, but the plans shed no light on how Millennium intends to alleviate harm to the irreplaceable and unique shallow habitat. The mitigation plan will only attempt to return the bottom of the Bay to an approximation of its former state, but will never be able to fully restore the functions, characteristics, and value of the shallow nearshore habitat.

Millennium tries to hide these facts by suggesting that other federal agencies support Millennium's proposal to use blasting techniques in the Haverstraw Bay. But this is not the case. For example, the USFWS wrote that it "recommends that Millennium assess the possibility of installing portable cofferdams and pumping the water from the area to be trenched, removing and stockpiling unconsolidated materials, and using a rocsaw to dig the trench" and continued to affirm that "[i]f the Haverstraw Bay crossing is permitted, Millennium should avoid blasting in Haverstraw Bay and instead do blasting 'in the dry' as discussed above."[85] And Millennium's declaration that NMFS supports of the blasting procedures is wrong. In a letter dated September 6, 2002, NMFS continued to show concerns with the project. NMFS advanced additional mitigation measures for alleviating disturbance of fish populations, but qualified these measures by asserting that even with those measures "[t]he revised pipeline installation requiring blasting for the easternmost 185 feet of the Haverstraw Bay crossing would adversely affect EFH

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84 NYSDOS' Initial Brief, Exhibit 10.

85 Letter from USFWS to USACOE dated March 5, 2002.

primarily by disturbing natural sediment structure, by resuspending contaminants, by dispersing or destroying forage species, by altering shallow subtidal habitats, by changing the natural shoreline development, and by fracturing the bedrock formation at the east shore of Haverstraw Bay."[86] Furthermore, the NYSDEC's comments that the agency has "no conceptual problems with the plans as proposed" from which Millennium somehow reads support for its blasting techniques, were confined to how the blasting would affect the 401 WQC, and NYSDEC remarked that Millennium needs to modify its 401 WQC so that the NYSDEC can "assure that all New York State water quality standards are met."

The eleventh hour revelation of the need for blasting in the Haverstraw Bay has prevented a full analysis of the potential environmental effects of the proposal. However, as the comments by several federal agencies demonstrate, blasting raises several serious issues, and Millennium does not give these concerns their just due.

2. The Village Wellfield And Arboretum Are Important Coastal Resources Meriting Protection Under the CZMA.

With respect to the Wellfield and the Arboretum, Millennium persists in recycling old arguments that these areas have no relation to, and are not themselves, "coastal resources." Millennium repeatedly claims in its Initial Brief that the proposed route "remov[es] the pipeline from direct contact with the Hudson River coastal resources;" that "[t]he Arboretum has no contact whatsoever with traditional coastal resources;" that "the Croton River crossing is of no coastal import;" and that "[t]he Village Wellfield...has little connection to any coastal areas of

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[86] Letter dated September 6, 2002 from Patricia A. Kurkul, Regional Administrator NMFS to Magalie Roman Salas, Secretary, FERC, regarding EFH Conservation Recommendations for the Millennium Pipeline Project and recommendations pursuant to the ESA.

the Village."[87] Finally, Millennium again raises its puzzling "viewshed" argument that these resources do not merit protection under the CZMA because "these locations are upland areas where there is no visual access to or from the Hudson River."[88]

Millennium's "jurisdictional" arguments regarding the Wellfield and Arboretum are incorrect and not at issue in this appeal. Because the State of New York has already approved the LWRP and its definition of the coastal zone, which includes the entire Village (and the U.S. Department of Commerce has approved New York's CMP), the Arboretum and Wellfield are, by definition, coastal resources within the approved coastal zone. Building a pipeline directly through these areas will therefore have direct impacts on "coastal resources."

More importantly, these areas are not, as Millennium continues to suggest, part of the coastal zone merely as a "technicality." The entire Village is nestled between and surrounded by two designated Significant Habitat zones: Haverstraw Bay on one side, and the Croton River and Bay on the other. There are numerous natural streams and drainage culverts that channel water into the Hudson and Croton Rivers. The Village and its inland areas in particular are spotted with forested areas and wetlands which play a key watershed function in absorbing and filtering runoff, thus preventing sedimentation and protecting coastal water quality. Development activities within the Village that disrupt streambeds, wetlands, or tree cover, have impacts on coastal waters -- even if the areas of direct impact may be physically remote from the open river portions of the coast.[89] The CMZA explicitly recognizes the significance of such indirect

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87 Millennium Initial Brief at 65.

88 *Id.*

89 In this regard, the CZMA states: The Congress finds that "[l]and uses in the coastal zone, and the uses of adjacent lands which drain into the coastal zone, may significantly affect the quality of coastal waters and habitats..." 16 U.S.C. § 1451(k) (2002).

impacts by incorporating a broad "effects test" for determining when activities are subject to consistency review.[90]

The hydrologic connection between coastal open waters and the Village's Wellfield is unquestioned. The Wellfield is located immediately *within* the Croton River Gorge. Activities that would disturb the riverbed in the Gorge would have immediate impacts to downstream coastal waters and to the Croton River and Bay Significant Habitat.

With regard to the Arboretum, Millennium argues, "the Arboretum has no contact whatsoever with traditional coastal resources."[91] This is not true. In fact, the Arboretum has direct hydrologic connections to the Hudson River. The U.S. Department of Interior National Wetlands Inventory map for the Haverstraw quadrangle clearly shows an intermittent stream leading directly from the wetland located in the Arboretum property down to the Hudson River.[92]

In sum, the entire Village is part of the coastal zone for CZMA purposes for very good reasons, and the Arboretum and Wellfield, in particular, are critical parts of the coastal zone that merit the special protection given to them under the CZMA and the enforceable policies of the Village's LWRP.

3. The Impacts of the Pipeline on the Village's Wellfield Will Be Substantial, And The Risk To Public Drinking Water Supplies Outweighs The Potential Benefits Of This Route.

The pipeline could cause serious safety and environmental threats if the proposed route through the Wellfield is allowed to go forward. Millennium's proposed mitigation measures will

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90 *See, e.g.,* Coastal Zone Management Regulations, 65 Fed. Reg. 77124.

91 Millennium Initial Brief at 65.

92 *See* Exhibit

not alleviate these impacts, which can only be avoided by not siting the pipeline through the Wellfield.

The Village obtains its water from shallow wells located in the Croton River valley. This valley-fill aquifer is the only source of drinking water for approximately 7,100 persons, the majority of the Village population. The aquifer underlies the Croton River and extends in a narrow band along the valley bottom on either side of the river. The water table in the wells is extremely shallow, just a few feet below the ground surface. The Wellfield is currently pumped at about 1.5 million gallons per day. While the aquifer receives water from many sources, the Croton River is the most significant source of water to the Wellfield. In other words, the aquifer and the river are in direct hydraulic communication, and pumping of the wells induces downward flow of river water through the unconsolidated sediments to the well intakes. Millennium's proposed pipeline would cross both the Croton River and the Wellfield.

In the late 1980s, the Village contracted with Geraghty & Miller to study the Wellfield area. That study documented that the Wellfield's soil is highly permeable; it also discovered the hydraulic connection between the aquifer and the Croton River.[93] Based on the study's findings, the Village enacted laws designed to protect the Wellfield and the Croton River. Protecting both the Wellfield and the Croton River is crucial to protecting the Village's water supply because the high permeability of the Wellfield soil could allow pollutants or impurities to pass through to the wells and the hydraulic connection between the Croton River and the wells could result in any river pollution or impurities passing through to the wells also.

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[93] *See* Geraghty & Miller Reports, attached as Exhibits 7, 8, and 9.

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[93] *See* Geraghty & Miller Reports, attached as Exhibits 7, 8, and 9.

Thus, LWRP Policy 38 requires that "the quality and quantity of surface water and groundwater supplies, will be conserved and protected, particularly where such waters constitute the primary or sole source of water supply." Pursuant to this policy, the Village enacted a Local Law designed to protect the Wellfield and water supply.[94] This Local Law established three "zones" for groundwater protection. "Zone 1" (Wellhead Protection Area) is the most protected zone and is in the vicinity of the water wells. With respect to Zone 1, the Local Law states that "all systems, facilities and activities are prohibited except for physical pumping and treatment facilities and control. *The area shall not be used for any purpose other than public water supply.*"[95] Millennium's proposed route goes directly through Zone 1.

Routing the pipeline through Zone 1 is a violation of the Local Law and the LWRP's policy. As the NYSDOS noted when it rejected the Millennium Project as inconsistent with the CZMA:

> Since the pipeline would traverse Zone 1 of the Wellfield Protection Area where it is a use that is not allowed and given the absence of management practices and monitoring activities that would be undertaken to protect the Village's water supply, constructing and operating the pipeline in this area would not be consistent with this CMP and Village LWRP policy to conserve and protect the quality and quantity of surface and groundwater supplies.[96]

Millennium's routing of the pipeline through Zone 1 is a *per se* violation of the LWRP and Village's laws designed to protect the Wellfield.

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[94] *See* Local Law No. 5 of 1989 (Exhibit 6).

[95] *Id.* (emphasis added).

[96] NYSDOS Objection at 4.

But even if Millennium's proposed route was not a *per se* violation of applicable law, the adverse impact that the pipeline could have on the Village's sole source of drinking water requires re-routing the pipeline out of the Wellfield. As the Department of Commerce has noted in prior consistency reviews: the "U.S. Supreme Court has recognized that '[d]rinking and other domestic purposes are the highest uses of water.'"[97]

Specifically, routing the pipeline through the Wellfield impacts water quantity, water quality, and the ability to expand existing wells in the future. For example, Millennium proposes to use trench dewatering during the construction of the pipeline and may also use water from the area for hydrostatic testing of the pipeline. There is potential for these activities to cause a decline in water supplies. Based on hydrogeologic studies of the Wellfield, the ground water is known to be very shallow. Trench construction activities can therefore be expected to encounter the groundwater table and could require the pumping of significant volumes of ground water. The pumping of high volumes of ground water during dewatering could cause a decline in the ground water table at the Village supply wells, unless this water is reinjected back into the aquifer. Such a decline in the ground water table could reduce the production capacity of the supply wells. The pumping of large volumes of water during dewatering and hydrostatic testing activities could also deplete the aquifer ground water storage. This storage depletion could be especially critical during dry months when surface water flow in the Croton River is low. The magnitude of such impacts due to water withdrawals cannot be assessed without quantitative modeling of site-specific aquifer properties.[98]

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97 *Virginia Elec. & Power Co.*, 1994 NOAA LEXIS 31 (citing *Connecticut v. Massachusetts*, 282 U.S. 660 (1931)).

98 *See* OBG Alternatives Report at 7-8.

Millennium, however, has ignored the Village's concern about water supplies. Unlike the Village, which has contracted for several studies of the Wellfield area, Millennium has undertaken no site-specific studies of the Wellfield area. Instead, it attempts to take pieces of the Village's own Geraghty & Miller Report out of context to support its proposal. Millennium also uses misleading arguments to hide the fact that it has not performed the requisite research into the potential impact of the proposed pipeline.

For example, Millennium cites the Geraghty & Miller Report's estimate that the Wellfield has the potential capacity to yield approximately 11 million gallons of water per day.[99] Millennium is attempting to suggest that reduction in water quantity is not an issue because of a substantial surplus in water supplies. But the existing wells' actual capacity is far below the Wellfield's potential capacity.[100] Millennium has not performed any study to determine how much capacity the existing wells do in fact have, nor has it compared the Village's actual use to existing capacity. Millennium has not taken these basic steps, let alone conducted a serious study of the potential impacts of the pipeline's construction on water supplies.

Likewise, Millennium has not studied the impact of the pipeline on water quality. The operation of construction equipment and the storage of various substances associated with the use of such equipment may contaminate the Village's water supply. Contaminant releases can occur during construction, maintenance, refueling, or equipment failure. Releases could also occur through the use of methanol for the hydrostatic testing of the pipeline. The impact of contaminant releases would be immediate and significant because the construction would take

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[99] Millennium Initial Brief at 73.

[100] *Id.* at 73 (admitting "existing wells have the potential to yield only a fraction" of this capacity).

place in close proximity to the supply well, and the soils in that area are very permeable. Thus, contaminants would be expected to migrate quickly from the surface directly into the water table and into the water supply, leaving little or no time to respond, remediate spills or warn residents.[101]

After construction, the continued presence of the pipeline in the Wellfield would present an ongoing risk to the Village's water quality. A pipeline leak would introduce contaminants into the ground water. Natural gas can dissolve in and be transported by ground water. Furthermore, hydrocarbon condensates are known to form in gas pipelines. These condensates will cause ground water contamination if a leak in the pipeline occurs. Given the high permeability of the Wellfield aquifer and the close proximity of the Village supply wells to the pipeline, rapid migration of these contaminants to the supply wells would be expected. Any such contamination would degrade the Village's drinking water supply and could become a serious public health concern.[102]

Even if the probability of such contamination or accidents is low, the dangers involved are not worth risking. The appellant bears the burden of showing that the impacts will be low, which Millennium cannot do. In *Mobil Exploration & Producing U.S. Inc.*,[103] when faced with the danger to natural resources that could result from an accidental oil spill resulting from oil exploration, the Secretary concluded: "While the probability of the occurrence of an accidental event may be low, Mobil has failed to meet its standard of proof and establish that the probability

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101 *See* OBG Report at 8-9.

102 *See id.* at 9-10.

103 1993 NOAA LEXIS 4 (Jan. 7, 1993).

of the risk of impact to the resources of concern is also low."[104] Millennium has not performed any site-specific studies to analyze the potential impact of the pipeline on the Wellfield, or done anything else to carry its burden of proof. Instead, Millennium relies on conclusory statements such as "construction of the Millennium Project will pose no threat of impact greater than that associated with maintaining the existing systems. Indeed, the potential impacts are far less."[105] Such reassurances are insufficient and do not meet the provide the strict requirements necessary to meet Millennium's obligation.

In addition to impacting water quantity and quality, the proposed pipeline will adversely affect the Village's ability to expand its existing fields. Millennium argues that "given the highly permeable nature of the aquifer, the pipeline will not impair the potential for the Village to expand its existing field."[106] This statement, however, ignores the fact that the pipeline would cross over the immediate vicinity of the area already identified in the hydrogeologic studies as appropriate for the development of additional water wells in the future. Because of restrictions on drilling in the vicinity of natural gas pipelines, the presence of the pipeline in this area reduces the available Wellfield area the Village has for expansion, thus compromising its ability to meet future water supply needs.

As the NYSDOS properly noted, Millennium's crossing of the Wellfield violates applicable laws and is inconsistent with the CZMA. Moreover, Millennium has not performed the studies necessary to demonstrate that the proposed route will not adversely impact either the

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[104] *Id.* at *76, 81

[105] Millennium Initial Brief at 72.

[106] *Id.* at 73.

quantity or quality of the Village's primary source of water. Therefore, Millennium should be required to re-route the pipeline outside of the Wellfield's boundaries.

4. The Pipeline Would Permanently Alter The Jane E. Lytle Memorial Arboretum And Threaten The Viability Of Its Wetland.

Despite Millennium's claims to the contrary, the Jane E. Lytle Memorial Arboretum ("Arboretum") will be adversely affected by the proposed pipeline.[107] Additionally, the direct watershed link between the Arboretum, a natural forested and pristine wetland area, and coastal areas means that the proposed pipeline will also have an impact on other coastal water resources.[108] Millennium's proposed mitigation measures would not ameliorate the impacts, and therefore the use of an alternative route that avoids the Arboretum entirely is appropriate.[109]

The Arboretum is a 20.3-acre wildlife refuge and public educational facility located in the northern corner of the Village. It contains a wetland of unusual diversity and ecological quality. As an intact, high-quality wetland in the midst of a rapidly urbanizing county, the Arboretum is a precious and valued resource for the residents of the Village.

The Village's LWRP has several policies specifically designed to protect wetlands, such as the one located in the Arboretum. LWRP Policy 44 is designed to "preserve and protect tidal and freshwater wetlands and preserve the benefits derived from these areas." LWRP Policy 44A states that "wetlands, water bodies, and watercourses shall be protected preventing damage from erosion or siltation, minimizing disturbance, preserving natural habitats and protecting against

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107 *See id.* at 66.

108 Millennium appears to be erroneously interpreting "coastal resources" to mean only "coastal waters" or the coast itself. This interpretation of "coastal resources" is not supported in the CZMA, which applies to activities affecting *any* land, water, and natural resources within the coastal zone. For example, tree removal and other impacts to the Arboretum proper are nonetheless direct impacts to "coastal resources" for CZMA purposes.

109 At a minimum, Millennium should use additional mitigation measures, such as directional drilling, to minimize impacts to the Arboretum. *See* OBG Alternatives Report at 45.

flood and pollution." Pursuant to the LWRP, the Village enacted a Local Law that extends protection to "wetlands" that are "1/4 acres or more" in size, and includes "prohibited buffer zones," *i.e.*, "any adjacent surfaces within 20 feet" of a wetland.[110] This Local Law explicitly prohibits actions adversely affecting wetlands, unless there is "no practicable alternative," and the applicant has demonstrated that the activity "will not degrade the environment or result in any of the [listed] adverse impacts."[111] Both the Village[112] and the NYSDOS[113] found that Millennium failed to meet the LWRP's requirements because of the damage caused by construction and maintenance of the pipeline.

Under Millennium's proposal, the pipeline would cross through the northeastern portion of the Arboretum that parallels the Con Edison right-of-way. The pipeline would be constructed using an open-trench cut, and may require blasting along some portions of the steep and rugged cliffs in the area. Millennium claims that the "evidence more than amply demonstrates that construction of the Project will traverse an extremely small portion of [the wetland located in the Arboretum] and will not impair its functioning or vitality or have any adverse impacts of consequence."[114] While it is true that the pipeline will cut about a 100-foot swath in the Arboretum, the *total* impact to the interior forested habitat from clear-cutting may extend approximately 300 feet *from the edge of the clear-cut.* Based on these figures, the total area of

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[110] Local Law No. 4-1988, § 227-3 (Exhibit 5).

[111] *See id.*; LWRP at III-51

[112] *See* Findings of the Waterfront Advisory Committee, June 22, 2001, at 14-17. In addition, the WAC found that the pipeline violated several other LWRP policies.

[113] *See* NYSDOS Objection at 15 ("The proposal will disturb wetlands and habitats be clear cutting and trenching, thus it is inconsistent with this policy.").

[114] Millennium Initial Brief at 67.

impact on interior forest habitat in the Arboretum could be approximately 5 acres, or 25% of the Arboretum's total property.[115] This does not qualify as "an extremely small portion."

Nor is Millennium correct when it claims that the pipeline will not impact the "functioning or vitality" of the Arboretum.[116] In fact, the pipeline will result in severe and irreversible degradation of the wetlands and other natural resources of the Arboretum. Most significantly, the removal of the mature forested buffer between the Arboretum and the Con Edison right-of-way and the grading of this area for temporary construction workspace and permanent access, will have serious impacts on the existing hydrology, flora and fauna, and habitat critical for amphibians, birds and other species, and will also significantly impair the educational and scenic values of the Arboretum. Tree removal will disrupt runoff and stream flow, increase erosion, change downstream hydrologic conditions, and subject the wetlands to increased sunlight and wind. The proposed pipeline would cross several intermittent streams and one perennial stream within the Arboretum, potentially disrupting the drainage patterns and reducing supply inflow to the Arboretum's wetlands permanently. This would also cause the encroachment of invasive vegetative species such as the *Phragmites australis* (common reed), *Polygonum cuspidatum* (Japanese knotweed), *Lythrum salicartia* (purple loosestrife), and *Lonicera* (Honeysuckle).[117] Invasive vegetative species have already infested the cleared portions of the Con Edison right-of-way immediately adjacent to the Arboretum, and any

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[115] OBG Alternatives Report at 11.

[116] *See* Millennium Initial Brief at 67-68 ("potential impacts on the wetland will be de minimis.").

[117] *See* OBG Alternatives Report at 10-12.

disturbances to the Arboretum or the forested buffer along the Arboretum creates conditions favorable for the invasion and establishment of such vegetation deeper into the Arboretum.

Finally, the permanent clearing of the protective buffer of mature trees in the sensitive habitat areas of the Arboretum and along the Con Edison right-of-way, and the subsequent construction of a maintenance access in that area will permanently and irreversibly alter the scenic nature of the Arboretum and diminish its value as a wildlife viewing area and recreational resource.[118]

Millennium hopes that its description of mitigation measures alone will sway the Secretary, but it has failed to explain how its mitigation measures would prevent the above damage to the Arboretum. Such damage could permanently impair nearly a quarter of the Arboretum's land, harm the sensitive wetland, vegetation, and wildlife in the area, and destroy the scenic and recreational value of the Arboretum. As described in the Alternative Section below, there are other alternatives that can avoid entirely these impacts.

5. The Proposed Crossing Of The Catskill Aqueduct Poses An Unacceptable And Unnecessary Risk To New York City's Drinking Water Supply.

Millennium proposes to install the pipeline across the Catskill Aqueduct within two feet of the 90-year old Bryn Mawr Siphon in Yonkers, New York. The Catskill Aqueduct supplies 40 percent of the drinking water for more than eight million residents of New York City, nearly one million Westchester County consumers, and countless other visitors to, and businesses in,

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[118] Millennium claims that the "sole and exclusive issue regarding the Arboretum concerns the effect of pipeline construction on [the] wetland." Millennium Initial Brief at 66. It implies in a string cite (on p. 67) that recreational or scenic issues are not relevant. However, the Village's LWRP does take recreational and scenic issues into consideration.

this region. Crossing the Aqueduct at this location presents an extremely high risk to the integrity of the Siphon and the availability of the water supply.

The NYSDOS Objection correctly determined that the proposed crossing of the Catskill Aqueduct at the Bryn Mawr Siphon "poses significant risks that have not been adequately addressed by Millennium," and that as such, "the project, as proposed, is not consistent with the State's Coastal Policies. ."[119] The NYSDOS Objection cites, among others, the concerns raised by the NYCDEP, which has stated that the impacts of the proposed pipeline on the Siphon could be "catastrophic."[120] ACOE has also voiced serious concerns about the proposed Aqueduct crossing, both with respect to the impact of construction on the integrity of the Siphon as well as the security risks posed by the project. The NYCDEP has subsequently reported that the ACOE informed NYCDEP that the proposed crossing at Bryn Mawr "poses an inherent security risk to the Catskill Aqueduct," and "jeopardizes the security of the New York City water supply system."[121] Furthermore, the ACOE has informed NYCDEP that the risks associated with the pipeline "could not be entirely eliminated through design modifications."[122]

6. Millennium Must Balance Development And Environmental Goals.

Finally, Millennium cites the general intent of the CZMA to achieve a balance of environmental protection and development. The Village agrees. That is exactly why the Village has argued not to abolish the pipeline altogether but, merely, to re-route it through other, less environmentally sensitive areas. Millennium continually cites the CZMA as supporting

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[119] NYSDOS Objection at 5-6.

[120] *Id.*

[121] Letter from Christopher O. Ward, NYCDEP, to Magalie R. Salas, FERC, dated April 26, 2002.

[122] *Id.*

development. The CZMA was not enacted to promote the unrestrained development of the coast; the objective of the Act is to encourage planning and sustainable development of the coastal zone, and to protect irreplaceable habitat areas like Haverstraw Bay. Pursuant to New York's carefully tailored CMP, NYSDOS correctly determined that Millennium's proposed pipeline was an inappropriate form of development for this area.

D. Element 3 -- There Are Several Alternatives To The Proposed Pipeline That Would Serve The Purposes Of The Project In A Manner Consistent With The CZMA.

In order to satisfy the third and final element of Ground I ("Element 3"), Millennium must establish that "[t]here is no reasonable alternative available which would permit the activity to be conducted in a manner consistent with the enforceable policies of the [state's coastal] management program."[123] As described in herein, and in detail in the OBG Alternatives Report (Exhibit 2), there are several other reasonable alternatives that would serve the purposes of the Project while avoiding all the significant coastal concerns associated with the Proposed Route. As such, the Secretary must uphold the NYSDOS Objection.

Past CZMA appeal decisions indicate that the Secretary has, on a number of occasions, upheld State objections on the basis of the existence of alternatives. Because each of the elements of Ground I are independent requirements, even if the Secretary determines a project's benefits outweigh its adverse environmental impacts, the availability of a reasonable alternative requires the Secretary to uphold the State's objection. In determining the availability of reasonable alternatives, past consistency decisions review whether the alternative is technically

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[123] 15 C.F.R. § 930.121(c).

feasible to implement, and whether the alternative achieves the primary purpose of the project.[124] Determining whether an alternative is "reasonable" involves balancing the particular alternative's advantages against its costs.[125]

The NYSDOS Objection correctly pointed out that there are several alternative routes and alternative systems that are reasonable, available, and consistent with the enforceable policies of New York's CMP and the Village's LWRP.[126] But contrary to Millennium's contention, the scope of alternatives subject to review on appeal does not stop there. As the CZMA regulations clearly provide, "[w]hen determining whether a reasonable alternative is available, the Secretary may consider but is not limited to considering, previous appeal decisions, alternatives described in the objection letters and alternatives and other new information described during the appeal."[127] Thus, in reviewing whether Millennium has satisfied the requirements of Element 3, the Secretary is not limited to considering the alternatives listed in the NYSDOS Objection but may consider any other alternatives identified during this proceeding. These include the alternatives discussed in NYSDOS' Initial Brief, as well as the alternatives and other information the Village describes herein and in the appended OBG Alternatives Report. This information makes unmistakably clear that there are a number of alternatives that are technically and economically feasible -- some of which are actually *shorter and less costly* than Millennium's Proposed Route.

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[124] Millennium Initial Brief at 98 (*citing Decision and Findings in the Consistency Appeal of VEPCO* (May 19, 1994) at 160).

[125] *See In the Consistency Appeal of Yeamans Hall Club*, 1992 NOAA LEXIS 50.

[126] NYSDOS Objection at 15.

[127] 15 C.F.R. § 930.121(c).

As described below, there are at least ten reasonable alternatives that would permit the pipeline to be constructed in a manner consistent with the enforceable policies of New York's coastal management program. These include:

Palisades/Dobbs Ferry Alternative 1;

Palisades/Dobbs Ferry Alternative 2;

Clarkstown/Route 117 Alternative;

Hudson River North Alternatives 1 and 2;

Navigation Channel Alternative;

Terminate The Pipeline At Bowline Point;

Directional Drill of Haverstraw Bay;

Partial Directional Drill of Haverstraw Bay;

System Alternatives;

Westchester Upland Alternatives.

Each of these alternatives is viable and consistent with the enforceable policies of New York's CMP and the Village's LWRP. Moreover, many of these routes are as cost effective, if not less costly, than Millennium's proposal.

1. The Palisades/Dobbs Ferry Alternative 1

The "Palisades/Dobbs Ferry Alternative 1" utilizes the Palisades Interstate Parkway and a Hudson River crossing at Dobbs Ferry. This route was not reviewed in the FEIS, but based on the Village's evaluation, this route presents a viable, reasonable alternative to the Proposed Route. The primary advantages to this alternative are that it avoids the primary impacts to important coastal resources associated with the Proposed Route, involves less overall upland impacts than the Proposed Route, has a shorter crossing of the Hudson River, and makes use of

existing pipeline rights-of-way, as suggested by NYSDOS in its objection. The route is also shorter and *less* costly than the Proposed Route.

Route Description

This route begins at milepost 382.5 where Millennium's Proposed Route crosses the Palisades Interstate Parkway ("Palisades") north of the intersection of the Palisades with Route I-287. The route then travels south along the east side of the Palisades to the point where the Tennessee Gas Pipeline ("Tennessee") right-of-way and the Parkway intersect. At this intersection, the route would leave the Palisades right-of-way at, and follow the Tennessee right-of-way to the bank of the Hudson River just north of the Dobbs Ferry Station, where it would then cross the river. The upland portion of the Palisades/Dobbs Ferry Alternative 1 in Westchester County would then continue to follow the Tennessee right-of-way and eventually connect to Millennium's proposed route at State Route 9/9A. The total length of the entire Palisades/Dobbs Ferry Alternative 1 route is approximately 16.7 miles in length, which is 14.1 miles *shorter* than the 30.8-mile long Proposed Route.

Construction Method

The method of construction along the Palisades would be to install the 24-inch pipe in a trench approximately six feet deep, approximately 20 feet from the curb of the northbound lane. The Palisades is a four lane, divided highway with a right-of-way width that averages approximately 400 feet. In most areas, there is approximately 100 feet of buffer/right-of-way from the edge of the highway to the right-of-way boundary. Millennium has estimated that installation of the pipeline along the Palisades would require the clearing of approximately 15 to 20 feet of trees or approximately 2 acres per mile, an estimate with which O'Brien & Gere concurs. This clearing of 15 to 20 fee of trees and other ground cover would result in a work

zone that would be approximately 35 to 40 feet in width. In the portions of this alternative where roads cross over or under the Palisades, the proposed pipeline could be installed by a conventional bore or jacked operation across these roads so that traffic will not be impacted.

Within the Tennessee right-of-way, the method of construction would be to install the Millennium pipeline 15 feet from the existing 24-inch Tennessee pipeline. Preliminary information indicates that the Tennessee right-of-way is 50 feet wide, and the existing pipe is set in the middle of the right-of-way. Therefore, the proposed pipe would be located 10 feet from the edge of the existing right-of-way; this would require securing 20 feet of additional right-of-way for approximately 1.3 miles in Rockland County and for 2.3 miles in Westchester County.

The Hudson River crossing could be accomplished either with the "open-cut lay barge" method or by directional drill. As there are 0.5 acres available on the west side of the River and one acre available on the east side of the river, there is adequate room to stage and execute a directional drilled crossing at this location.

Cost Estimate

The Palisades/Dobbs Ferry Alternative 1 is not only a viable alternative, but it is in fact shorter and less expensive than the pipeline route that Millennium has proposed. In fact, O'Brien & Gere estimate that utilizing the Palisades/Dobbs Ferry Alternative 1 would result in a construction cost savings of roughly $10 to $25 million.

O'Brien & Gere's calculations are based on Millennium's own estimates. Millennium estimated an average cost of $1,937,573 per mile for construction of the Proposed Route through Rockland and Westchester Counties.[128] In order to account for additional planning, land

[128] *See* Application of Millennium Pipeline Company, LP, at Docket No. CP98-150-000 (filed Dec. 22, 1997) Exhibit K, Docket No. CP98-150-000, "Millennium Pipeline Company, L.P., Cost of Facilities."

acquisition, and engineering costs that would be incurred to implement this proposed alternative, O'Brien & Gere's evaluation contemplates a conservative 50% differential increase in construction costs. For the purposes of its evaluation, O'Brien & Gere therefore estimated construction costs to be $2,906,000 per mile. With a total length of 16.7 miles, the construction cost of the Palisades/Dobbs Ferry Alternative 1 would be approximately $49 million. The corresponding cost of the Proposed Route from Bowline Point to the vicinity of Dobbs Ferry would be approximately $59 million dollars using Millennium's average cost per mile of $1,937,573. Accordingly, the Palisades Parkway/Dobbs Ferry Alternative results in a savings of $10 million based on the conservative .5 times increase, or a savings of $25 million using Millennium's own cost estimates.

Environmental Impacts

Besides being shorter and less costly, the Palisades Parkway Dobbs Ferry Alternative 1 route is also better for New York's coastal resources. O'Brien & Gere conducted a screening level assessment of the relative environmental impacts of this alternative and the Proposed Route. Their findings, described in more detail in the attached report, indicate that the Palisades/Dobbs Ferry Alternative 1 would have relatively minor adverse consequences overall, in comparison to the substantially detrimental impacts that would result from the current Proposed Route.

Unlike the Proposed Route, this alternative would utilize (as NYSDOS has recommended) existing pipeline rights-of-way for the installation of the Millennium pipeline specifically, the existing Palisades Parkway and Tennessee pipeline rights-of-way — to minimize the environmental impacts. Land uses adjacent to these rights-of-way are similar to those found along the Proposed Route, and are predominantly mixed open space and residential.

O'Brien & Gere indicates that there is generally ample space within these rights-of-way so as not to incur significant disturbances to residential areas during construction and operation of the pipeline.

This alternative would also cause no direct impacts to wells, as opposed to Millennium's proposed alignment, which traverses immediately through the Village's Wellfield. With regard to surface and ground water resource impacts, O'Brien & Gere reports that there are no mapped wells or ground water zones near this alternative route in Westchester County. In Rockland County, the route may pass in the vicinity of a small number of private wells in Orangetown, but O'Brien & Gere states that these mapped wells appear to be offset from the Palisades, and thus would not be impacted by this alternative.

This alternative would moreover have less of an overall impact on streams and water resources than the Proposed Route. Based on County mapping information, O'Brien & Gere identified a number of streams and jurisdictional wetlands that would potentially be impacted by the use of this alternative. The OBG Alternatives Report describes each of these areas in detail, and concludes that the streams to be crossed with this alternative would represent a less significant overall impact than the streams and water sources that would be crossed under Millennium's proposed route, including the Croton River, several crossings of the Saw Mill River, and tributaries to the New Croton Reservoir, a New York City drinking water supply source. Similarly, O'Brien & Gere found that wetlands along the alternative do not appear to be as ecologically significant or functional valuable as those along the Proposed Route.

In sum, the Palisades/Dobbs Ferry Alternative 1 presents a viable and cost effective alternative from a technical standpoint, would avoid all impacts to coastal resources associated with the Proposed Route, and would result in a reduced level of upland environmental impacts

overall relative to the Proposed Route. Existing right-of-ways are used, thus furthering the CZMA goal of siting of new facilities within existing development corridors and reducing impacts on pristine, unspoiled areas. Because this alternative route presents an available, reasonable alternative that is consistent with the enforceable policies of the CZMA, the Secretary should uphold the NYSDOS Objection.

2. The Palisades/Dobbs Ferry Alternative 2

The "Palisades/Dobbs Ferry Alternative 2" is a variation on the above alternative which generally utilizes the Penn Central railroad and Tennessee rights-of-way and crosses the Hudson River at Dobbs Ferry. It too avoids the significant environmental impacts to New York's coastal resources associated with the Proposed Route. It is also shorter and potentially less costly than the route that Millennium has proposed.

Route Description

This alternative originates at the point where the old Penn Central Railroad right-of-way intersects I-287 in a North/South direction. The pipeline would follow the East Side of the railroad right-of-way south until it intersects with the existing Tennessee right-of-way. The route then proceeds east along the Tennessee right-of-way for 2.7 miles to the west bank of the Hudson River. From this point, the alignment is identical to the Palisades/Dobbs Ferry Alternative 1 The total length of the Palisades/Dobbs Ferry Alternative 2 route is approximately 18.5 miles, 2.1 miles longer than the Palisades/Dobbs Ferry Alternative 1, but still shorter than Millennium's current proposed route.

Construction Method

The pipeline would be installed within a casing approximately 30 feet from the center line of the railroad tracks, with a slightly deeper cover than that required for works parallel to highways. The work zone would be approximately 40 feet wide, which would require the

securing of temporary construction easements in selected areas along the railroad rights-of-way. Because the right-of-way width varies from 50 feet to 130 feet, O'Brien & Gere reports that there is ample installation space within the right-of-way.

Cost Estimate

Like many of the other alternatives identified in O'Brien & Gere's report, this alternative route is shorter and likely to be less costly than the route that Millennium has proposed. As described in their report, O'Brien & Gere apply an average cost per mile estimate of $2,906,000 (fifty percent more than Millennium's per mile cost estimate of $1,937,573) to all areas of the alternative route, except the crossing of the railroad right-of-way, which O'Brien & Gere estimate would cost $3,800,000 per mile. Using these figures, O'Brien & Gere estimates that the Palisade/Dobbs Ferry Alternative 2 would cost approximately $59 million, or roughly the same cost as Millennium's Proposed Route for the corresponding segment from Bowline Point to the vicinity of Dobbs Ferry. O'Brien & Gere states, however, that because their estimates are based on conservative per mile guidelines, the actual cost of this alternative is likely to be less than Millennium's Proposed Route.

Environmental Impacts

This alternative is not only viable, but will also have less environmental impacts. Unlike the Proposed Route, which would impact relatively undisturbed natural areas, this alternative is located predominantly within the existing Penn Central railroad and Tennessee pipeline rights-of-way. Moreover, O'Brien & Gere has determined that there is ample space within the Penn Central right-of-way for the pipeline, so major disturbances to residential areas during construction and operation would not be necessary. Land use along the portions of this

alternative from the Palisades to the Saw Mill River intersection is the same as that described for the Palisades/Dobbs Ferry Alternative

This alternative also would have less impacts to surface and groundwater resources than the Proposed Route. To be sure, O'Brien & Gere reports that this alternative appears to pass within several hundred feet of three private wells in the Towns of Clarkstown and Orangetown. But the mapped wells appear to be offset from the railroad right-of-way and the pipeline route, and O'Brien & Gere conclude that there would not be any direct impacts to wells along this proposed alternative. Likewise, O'Brien & Gere report that although wetlands and streams would be crossed along this alternative, the impacts would be relatively insignificant compared to the Proposed Route.

In sum, as O'Brien & Gere concludes the Palisades/Dobbs Ferry Alternative 2 would be preferable to Millennium's Proposed Route because it is technically feasible, avoids impacts to sensitive environmental resources, and is equal to or possibly less expensive in cost than Millennium's proposed route. The Palisades/Dobbs Ferry Alternative 2, therefore presents a viable alternative with a significant net reduction in environmental impacts. It too is an independent and sufficient reason for the Secretary to uphold the NYSDOS Objection.

3. Clarkstown/Route 117 Alternative

The Clarkstown/Route 117 Alternative is a modified version of a route that was identified by the Village in its comments to FERC, but was never evaluated in the FEIS. This alternative involves a new route through Clarkstown on the west bank of the Hudson River leading to a point in Nyack Beach Park approximately five miles north of the Tappan Zee Bridge, where the pipeline would cross the Hudson River and join Route 7 on the east side of the Hudson River. This alternative is viable, shorter, and again less costly than Millennium's Proposed Route. Moreover, because it avoids protected coastal resources, such as Haverstraw Bay, the Village's

Wellfield, and the Arboretum, it has significantly less environmental impacts than Millennium's Propose Route.

Route Description

As identified by O'Brien & Gere, this route would track the Tappan Zee Bridge alternative discussed in the FEIS until it reaches the State Route 303 intersection in Nyack There, the route would proceed north/northeast until reaching the southern extremity of Nyack Beach Park From there, Millennium would commence a lay barge pipeline crossing operation to cross the Hudson River. The pipeline would proceed across the Hudson River for a distance of approximately 12,000 feet to the Rockwood Hall State Park in Westchester County. From there, the pipeline would follow the alignment referred to as the "Route 117 Alternative" in the FEIS.

This variation of the Millennium Pipeline alignment avoids the impact to the Memorial Park and Village streets in the Village of Nyack and construction of the pipeline from the Village to a point where Route 17 intersects the Taconic State Park. The impacts to the Village's drinking water well field are avoided, as are impacts to sensitive ecological resources in the vicinity of the Village. The total length of this alternative is 15.6 miles, while the corresponding length of Millennium's proposed route from Bowline to the Route 117 point of intersection is approximately 26.3 miles. The route is therefore approximately 10.7 miles shorter than that proposed by Millennium

Construction Method

At the point where the Hudson River South, Clarkstown, Route 7 Alternative leaves I-287, the pipeline would be constructed in a six foot deep trench located approximately 10 feet from the edge of the southbound shoulder of Route 303 A 36-inch steel casing would be

not alleviate these impacts, which can only be avoided by not siting the pipeline through the Wellfield.

The Village obtains its water from shallow wells located in the Croton River valley. This valley-fill aquifer is the only source of drinking water for approximately 7,100 persons, the majority of the Village population. The aquifer underlies the Croton River and extends in a narrow band along the valley bottom on either side of the river. The water table in the wells is extremely shallow, just a few feet below the ground surface. The Wellfield is currently pumped at about 1.5 million gallons per day. While the aquifer receives water from many sources, the Croton River is the most significant source of water to the Wellfield. In other words, the aquifer and the river are in direct hydraulic communication, and pumping of the wells induces downward flow of river water through the unconsolidated sediments to the well intakes. Millennium's proposed pipeline would cross both the Croton River and the Wellfield.

In the late 1980s, the Village contracted with Geraghty & Miller to study the Wellfield area. That study documented that the Wellfield's soil is highly permeable; it also discovered the hydraulic connection between the aquifer and the Croton River.[93] Based on the study's findings, the Village enacted laws designed to protect the Wellfield and the Croton River. Protecting both the Wellfield and the Croton River is crucial to protecting the Village's water supply because the high permeability of the Wellfield soil could allow pollutants or impurities to pass through to the wells and the hydraulic connection between the Croton River and the wells could result in any river pollution or impurities passing through to the wells also.

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[93] *See* Geraghty & Miller Reports, attached as Exhibits 7, 8, and 9.

Thus, LWRP Policy 38 requires that "the quality and quantity of surface water and groundwater supplies, will be conserved and protected, particularly where such waters constitute the primary or sole source of water supply." Pursuant to this policy, the Village enacted a Local Law designed to protect the Wellfield and water supply.[94] This Local Law established three "zones" for groundwater protection. "Zone 1" (Wellhead Protection Area) is the most protected zone and is in the vicinity of the water wells. With respect to Zone 1, the Local Law states that "all systems, facilities and activities are prohibited except for physical pumping and treatment facilities and control. *The area shall not be used for any purpose other than public water supply.*"[95] Millennium's proposed route goes directly through Zone 1.

Routing the pipeline through Zone 1 is a violation of the Local Law and the LWRP's policy. As the NYSDOS noted when it rejected the Millennium Project as inconsistent with the CZMA:

> Since the pipeline would traverse Zone 1 of the Wellfield Protection Area where it is a use that is not allowed and given the absence of management practices and monitoring activities that would be undertaken to protect the Village's water supply, constructing and operating the pipeline in this area would not be consistent with this CMP and Village LWRP policy to conserve and protect the quality and quantity of surface and groundwater supplies.[96]

Millennium's routing of the pipeline through Zone 1 is a *per se* violation of the LWRP and Village's laws designed to protect the Wellfield.

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[94] *See* Local Law No. 5 of 1989 (Exhibit 6).

[95] *Id.* (emphasis added).

[96] NYSDOS Objection at 4.

But even if Millennium's proposed route was not a *per se* violation of applicable law, the adverse impact that the pipeline could have on the Village's sole source of drinking water requires re-routing the pipeline out of the Wellfield. As the Department of Commerce has noted in prior consistency reviews: the "U.S. Supreme Court has recognized that '[d]rinking and other domestic purposes are the highest uses of water.'"[97]

Specifically, routing the pipeline through the Wellfield impacts water quantity, water quality, and the ability to expand existing wells in the future. For example, Millennium proposes to use trench dewatering during the construction of the pipeline and may also use water from the area for hydrostatic testing of the pipeline. There is potential for these activities to cause a decline in water supplies. Based on hydrogeologic studies of the Wellfield, the ground water is known to be very shallow. Trench construction activities can therefore be expected to encounter the groundwater table and could require the pumping of significant volumes of ground water. The pumping of high volumes of ground water during dewatering could cause a decline in the ground water table at the Village supply wells, unless this water is reinjected back into the aquifer. Such a decline in the ground water table could reduce the production capacity of the supply wells. The pumping of large volumes of water during dewatering and hydrostatic testing activities could also deplete the aquifer ground water storage. This storage depletion could be especially critical during dry months when surface water flow in the Croton River is low. The magnitude of such impacts due to water withdrawals cannot be assessed without quantitative modeling of site-specific aquifer properties.[98]

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97 *Virginia Elec. & Power Co.*, 1994 NOAA LEXIS 31 (citing *Connecticut v. Massachusetts*, 282 U.S. 660 (1931)).

98 *See* OBG Alternatives Report at 7-8.

Millennium, however, has ignored the Village's concern about water supplies. Unlike the Village, which has contracted for several studies of the Wellfield area, Millennium has undertaken no site-specific studies of the Wellfield area. Instead, it attempts to take pieces of the Village's own Geraghty & Miller Report out of context to support its proposal. Millennium also uses misleading arguments to hide the fact that it has not performed the requisite research into the potential impact of the proposed pipeline.

For example, Millennium cites the Geraghty & Miller Report's estimate that the Wellfield has the potential capacity to yield approximately 11 million gallons of water per day.[99] Millennium is attempting to suggest that reduction in water quantity is not an issue because of a substantial surplus in water supplies. But the existing wells' actual capacity is far below the Wellfield's potential capacity.[100] Millennium has not performed any study to determine how much capacity the existing wells do in fact have, nor has it compared the Village's actual use to existing capacity. Millennium has not taken these basic steps, let alone conducted a serious study of the potential impacts of the pipeline's construction on water supplies.

Likewise, Millennium has not studied the impact of the pipeline on water quality. The operation of construction equipment and the storage of various substances associated with the use of such equipment may contaminate the Village's water supply. Contaminant releases can occur during construction, maintenance, refueling, or equipment failure. Releases could also occur through the use of methanol for the hydrostatic testing of the pipeline. The impact of contaminant releases would be immediate and significant because the construction would take

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[99] Millennium Initial Brief at 73.

[100] *Id.* at 73 (admitting "existing wells have the potential to yield only a fraction" of this capacity).

place in close proximity to the supply well, and the soils in that area are very permeable. Thus, contaminants would be expected to migrate quickly from the surface directly into the water table and into the water supply, leaving little or no time to respond, remediate spills or warn residents.[101]

After construction, the continued presence of the pipeline in the Wellfield would present an ongoing risk to the Village's water quality. A pipeline leak would introduce contaminants into the ground water. Natural gas can dissolve in and be transported by ground water. Furthermore, hydrocarbon condensates are known to form in gas pipelines. These condensates will cause ground water contamination if a leak in the pipeline occurs. Given the high permeability of the Wellfield aquifer and the close proximity of the Village supply wells to the pipeline, rapid migration of these contaminants to the supply wells would be expected. Any such contamination would degrade the Village's drinking water supply and could become a serious public health concern.[102]

Even if the probability of such contamination or accidents is low, the dangers involved are not worth risking. The appellant bears the burden of showing that the impacts will be low, which Millennium cannot do. In *Mobil Exploration & Producing U.S. Inc.*,[103] when faced with the danger to natural resources that could result from an accidental oil spill resulting from oil exploration, the Secretary concluded: "While the probability of the occurrence of an accidental event may be low, Mobil has failed to meet its standard of proof and establish that the probability

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101 *See* OBG Report at 8-9.

102 *See id.* at 9-10.

103 1993 NOAA LEXIS 4 (Jan. 7, 1993).

of the risk of impact to the resources of concern is also low."[104] Millennium has not performed any site-specific studies to analyze the potential impact of the pipeline on the Wellfield, or done anything else to carry its burden of proof. Instead, Millennium relies on conclusory statements such as "construction of the Millennium Project will pose no threat of impact greater than that associated with maintaining the existing systems. Indeed, the potential impacts are far less."[105] Such reassurances are insufficient and do not meet the provide the strict requirements necessary to meet Millennium's obligation.

In addition to impacting water quantity and quality, the proposed pipeline will adversely affect the Village's ability to expand its existing fields. Millennium argues that "given the highly permeable nature of the aquifer, the pipeline will not impair the potential for the Village to expand its existing field."[106] This statement, however, ignores the fact that the pipeline would cross over the immediate vicinity of the area already identified in the hydrogeologic studies as appropriate for the development of additional water wells in the future. Because of restrictions on drilling in the vicinity of natural gas pipelines, the presence of the pipeline in this area reduces the available Wellfield area the Village has for expansion, thus compromising its ability to meet future water supply needs.

As the NYSDOS properly noted, Millennium's crossing of the Wellfield violates applicable laws and is inconsistent with the CZMA. Moreover, Millennium has not performed the studies necessary to demonstrate that the proposed route will not adversely impact either the

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[104] *Id.* at *76, 81

[105] Millennium Initial Brief at 72.

[106] *Id.* at 73.

quantity or quality of the Village's primary source of water. Therefore, Millennium should be required to re-route the pipeline outside of the Wellfield's boundaries.

4. The Pipeline Would Permanently Alter The Jane E. Lytle Memorial Arboretum And Threaten The Viability Of Its Wetland.

Despite Millennium's claims to the contrary, the Jane E. Lytle Memorial Arboretum ("Arboretum") will be adversely affected by the proposed pipeline.[107] Additionally, the direct watershed link between the Arboretum, a natural forested and pristine wetland area, and coastal areas means that the proposed pipeline will also have an impact on other coastal water resources.[108] Millennium's proposed mitigation measures would not ameliorate the impacts, and therefore the use of an alternative route that avoids the Arboretum entirely is appropriate.[109]

The Arboretum is a 20.3-acre wildlife refuge and public educational facility located in the northern corner of the Village. It contains a wetland of unusual diversity and ecological quality. As an intact, high-quality wetland in the midst of a rapidly urbanizing county, the Arboretum is a precious and valued resource for the residents of the Village.

The Village's LWRP has several policies specifically designed to protect wetlands, such as the one located in the Arboretum. LWRP Policy 44 is designed to "preserve and protect tidal and freshwater wetlands and preserve the benefits derived from these areas." LWRP Policy 44A states that "wetlands, water bodies, and watercourses shall be protected preventing damage from erosion or siltation, minimizing disturbance, preserving natural habitats and protecting against

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107 *See id.* at 66.

108 Millennium appears to be erroneously interpreting "coastal resources" to mean only "coastal waters" or the coast itself. This interpretation of "coastal resources" is not supported in the CZMA, which applies to activities affecting *any* land, water, and natural resources within the coastal zone. For example, tree removal and other impacts to the Arboretum proper are nonetheless direct impacts to "coastal resources" for CZMA purposes.

109 At a minimum, Millennium should use additional mitigation measures, such as directional drilling, to minimize impacts to the Arboretum. *See* OBG Alternatives Report at 45.

flood and pollution." Pursuant to the LWRP, the Village enacted a Local Law that extends protection to "wetlands" that are "1/4 acres or more" in size, and includes "prohibited buffer zones," *i.e.*, "any adjacent surfaces within 20 feet" of a wetland.[110] This Local Law explicitly prohibits actions adversely affecting wetlands, unless there is "no practicable alternative," and the applicant has demonstrated that the activity "will not degrade the environment or result in any of the [listed] adverse impacts."[111] Both the Village[112] and the NYSDOS[113] found that Millennium failed to meet the LWRP's requirements because of the damage caused by construction and maintenance of the pipeline.

Under Millennium's proposal, the pipeline would cross through the northeastern portion of the Arboretum that parallels the Con Edison right-of-way. The pipeline would be constructed using an open-trench cut, and may require blasting along some portions of the steep and rugged cliffs in the area. Millennium claims that the "evidence more than amply demonstrates that construction of the Project will traverse an extremely small portion of [the wetland located in the Arboretum] and will not impair its functioning or vitality or have any adverse impacts of consequence."[114] While it is true that the pipeline will cut about a 100-foot swath in the Arboretum, the *total* impact to the interior forested habitat from clear-cutting may extend approximately 300 feet *from the edge of the clear-cut.* Based on these figures, the total area of

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[110] Local Law No. 4-1988, § 227-3 (Exhibit 5).

[111] *See id.*; LWRP at III-51

[112] *See* Findings of the Waterfront Advisory Committee, June 22, 2001, at 14-17. In addition, the WAC found that the pipeline violated several other LWRP policies.

[113] *See* NYSDOS Objection at 15 ("The proposal will disturb wetlands and habitats be clear cutting and trenching, thus it is inconsistent with this policy.").

[114] Millennium Initial Brief at 67.

impact on interior forest habitat in the Arboretum could be approximately 5 acres, or 25% of the Arboretum's total property.[115] This does not qualify as "an extremely small portion."

Nor is Millennium correct when it claims that the pipeline will not impact the "functioning or vitality" of the Arboretum.[116] In fact, the pipeline will result in severe and irreversible degradation of the wetlands and other natural resources of the Arboretum. Most significantly, the removal of the mature forested buffer between the Arboretum and the Con Edison right-of-way and the grading of this area for temporary construction workspace and permanent access, will have serious impacts on the existing hydrology, flora and fauna, and habitat critical for amphibians, birds and other species, and will also significantly impair the educational and scenic values of the Arboretum. Tree removal will disrupt runoff and stream flow, increase erosion, change downstream hydrologic conditions, and subject the wetlands to increased sunlight and wind. The proposed pipeline would cross several intermittent streams and one perennial stream within the Arboretum, potentially disrupting the drainage patterns and reducing supply inflow to the Arboretum's wetlands permanently. This would also cause the encroachment of invasive vegetative species such as the *Phragmites australis* (common reed), *Polygonum cuspidatum* (Japanese knotweed), *Lythrum salicartia* (purple loosestrife), and *Lonicera* (Honeysuckle).[117] Invasive vegetative species have already infested the cleared portions of the Con Edison right-of-way immediately adjacent to the Arboretum, and any

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[115] OBG Alternatives Report at 11.

[116] *See* Millennium Initial Brief at 67-68 ("potential impacts on the wetland will be de minimis.").

[117] *See* OBG Alternatives Report at 10-12.

disturbances to the Arboretum or the forested buffer along the Arboretum creates conditions favorable for the invasion and establishment of such vegetation deeper into the Arboretum.

Finally, the permanent clearing of the protective buffer of mature trees in the sensitive habitat areas of the Arboretum and along the Con Edison right-of-way, and the subsequent construction of a maintenance access in that area will permanently and irreversibly alter the scenic nature of the Arboretum and diminish its value as a wildlife viewing area and recreational resource.[118]

Millennium hopes that its description of mitigation measures alone will sway the Secretary, but it has failed to explain how its mitigation measures would prevent the above damage to the Arboretum. Such damage could permanently impair nearly a quarter of the Arboretum's land, harm the sensitive wetland, vegetation, and wildlife in the area, and destroy the scenic and recreational value of the Arboretum. As described in the Alternative Section below, there are other alternatives that can avoid entirely these impacts.

5. The Proposed Crossing Of The Catskill Aqueduct Poses An Unacceptable And Unnecessary Risk To New York City's Drinking Water Supply.

Millennium proposes to install the pipeline across the Catskill Aqueduct within two feet of the 90-year old Bryn Mawr Siphon in Yonkers, New York. The Catskill Aqueduct supplies 40 percent of the drinking water for more than eight million residents of New York City, nearly one million Westchester County consumers, and countless other visitors to, and businesses in,

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[118] Millennium claims that the "sole and exclusive issue regarding the Arboretum concerns the effect of pipeline construction on [the] wetland." Millennium Initial Brief at 66. It implies in a string cite (on p. 67) that recreational or scenic issues are not relevant. However, the Village's LWRP does take recreational and scenic issues into consideration.

this region. Crossing the Aqueduct at this location presents an extremely high risk to the integrity of the Siphon and the availability of the water supply.

The NYSDOS Objection correctly determined that the proposed crossing of the Catskill Aqueduct at the Bryn Mawr Siphon "poses significant risks that have not been adequately addressed by Millennium," and that as such, "the project, as proposed, is not consistent with the State's Coastal Policies. ."[119] The NYSDOS Objection cites, among others, the concerns raised by the NYCDEP, which has stated that the impacts of the proposed pipeline on the Siphon could be "catastrophic."[120] ACOE has also voiced serious concerns about the proposed Aqueduct crossing, both with respect to the impact of construction on the integrity of the Siphon as well as the security risks posed by the project. The NYCDEP has subsequently reported that the ACOE informed NYCDEP that the proposed crossing at Bryn Mawr "poses an inherent security risk to the Catskill Aqueduct," and "jeopardizes the security of the New York City water supply system."[121] Furthermore, the ACOE has informed NYCDEP that the risks associated with the pipeline "could not be entirely eliminated through design modifications."[122]

6. Millennium Must Balance Development And Environmental Goals.

Finally, Millennium cites the general intent of the CZMA to achieve a balance of environmental protection and development. The Village agrees. That is exactly why the Village has argued not to abolish the pipeline altogether but, merely, to re-route it through other, less environmentally sensitive areas. Millennium continually cites the CZMA as supporting

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[119] NYSDOS Objection at 5-6.

[120] *Id.*

[121] Letter from Christopher O. Ward, NYCDEP, to Magalie R. Salas, FERC, dated April 26, 2002.

[122] *Id.*

development. The CZMA was not enacted to promote the unrestrained development of the coast; the objective of the Act is to encourage planning and sustainable development of the coastal zone, and to protect irreplaceable habitat areas like Haverstraw Bay. Pursuant to New York's carefully tailored CMP, NYSDOS correctly determined that Millennium's proposed pipeline was an inappropriate form of development for this area.

D. Element 3 -- There Are Several Alternatives To The Proposed Pipeline That Would Serve The Purposes Of The Project In A Manner Consistent With The CZMA.

In order to satisfy the third and final element of Ground I ("Element 3"), Millennium must establish that "[t]here is no reasonable alternative available which would permit the activity to be conducted in a manner consistent with the enforceable policies of the [state's coastal] management program."[123] As described in herein, and in detail in the OBG Alternatives Report (Exhibit 2), there are several other reasonable alternatives that would serve the purposes of the Project while avoiding all the significant coastal concerns associated with the Proposed Route. As such, the Secretary must uphold the NYSDOS Objection.

Past CZMA appeal decisions indicate that the Secretary has, on a number of occasions, upheld State objections on the basis of the existence of alternatives. Because each of the elements of Ground I are independent requirements, even if the Secretary determines a project's benefits outweigh its adverse environmental impacts, the availability of a reasonable alternative requires the Secretary to uphold the State's objection. In determining the availability of reasonable alternatives, past consistency decisions review whether the alternative is technically

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[123] 15 C.F.R. § 930.121(c).

feasible to implement, and whether the alternative achieves the primary purpose of the project.[124] Determining whether an alternative is "reasonable" involves balancing the particular alternative's advantages against its costs.[125]

The NYSDOS Objection correctly pointed out that there are several alternative routes and alternative systems that are reasonable, available, and consistent with the enforceable policies of New York's CMP and the Village's LWRP.[126] But contrary to Millennium's contention, the scope of alternatives subject to review on appeal does not stop there. As the CZMA regulations clearly provide, "[w]hen determining whether a reasonable alternative is available, the Secretary may consider but is not limited to considering, previous appeal decisions, alternatives described in the objection letters and alternatives and other new information described during the appeal."[127] Thus, in reviewing whether Millennium has satisfied the requirements of Element 3, the Secretary is not limited to considering the alternatives listed in the NYSDOS Objection but may consider any other alternatives identified during this proceeding. These include the alternatives discussed in NYSDOS' Initial Brief, as well as the alternatives and other information the Village describes herein and in the appended OBG Alternatives Report. This information makes unmistakably clear that there are a number of alternatives that are technically and economically feasible -- some of which are actually *shorter and less costly* than Millennium's Proposed Route.

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[124] Millennium Initial Brief at 98 (*citing Decision and Findings in the Consistency Appeal of VEPCO* (May 19, 1994) at 160).

[125] *See In the Consistency Appeal of Yeamans Hall Club*, 1992 NOAA LEXIS 50.

[126] NYSDOS Objection at 15.

[127] 15 C.F.R. § 930.121(c).

As described below, there are at least ten reasonable alternatives that would permit the pipeline to be constructed in a manner consistent with the enforceable policies of New York's coastal management program. These include:

Palisades/Dobbs Ferry Alternative 1;

Palisades/Dobbs Ferry Alternative 2;

Clarkstown/Route 117 Alternative;

Hudson River North Alternatives 1 and 2;

Navigation Channel Alternative;

Terminate The Pipeline At Bowline Point;

Directional Drill of Haverstraw Bay;

Partial Directional Drill of Haverstraw Bay;

System Alternatives;

Westchester Upland Alternatives.

Each of these alternatives is viable and consistent with the enforceable policies of New York's CMP and the Village's LWRP. Moreover, many of these routes are as cost effective, if not less costly, than Millennium's proposal.

1. The Palisades/Dobbs Ferry Alternative 1

The "Palisades/Dobbs Ferry Alternative 1" utilizes the Palisades Interstate Parkway and a Hudson River crossing at Dobbs Ferry. This route was not reviewed in the FEIS, but based on the Village's evaluation, this route presents a viable, reasonable alternative to the Proposed Route. The primary advantages to this alternative are that it avoids the primary impacts to important coastal resources associated with the Proposed Route, involves less overall upland impacts than the Proposed Route, has a shorter crossing of the Hudson River, and makes use of

existing pipeline rights-of-way, as suggested by NYSDOS in its objection. The route is also shorter and *less* costly than the Proposed Route.

Route Description

This route begins at milepost 382.5 where Millennium's Proposed Route crosses the Palisades Interstate Parkway ("Palisades") north of the intersection of the Palisades with Route I-287. The route then travels south along the east side of the Palisades to the point where the Tennessee Gas Pipeline ("Tennessee") right-of-way and the Parkway intersect. At this intersection, the route would leave the Palisades right-of-way at, and follow the Tennessee right-of-way to the bank of the Hudson River just north of the Dobbs Ferry Station, where it would then cross the river. The upland portion of the Palisades/Dobbs Ferry Alternative 1 in Westchester County would then continue to follow the Tennessee right-of-way and eventually connect to Millennium's proposed route at State Route 9/9A. The total length of the entire Palisades/Dobbs Ferry Alternative 1 route is approximately 16.7 miles in length, which is 14.1 miles *shorter* than the 30.8-mile long Proposed Route.

Construction Method

The method of construction along the Palisades would be to install the 24-inch pipe in a trench approximately six feet deep, approximately 20 feet from the curb of the northbound lane. The Palisades is a four lane, divided highway with a right-of-way width that averages approximately 400 feet. In most areas, there is approximately 100 feet of buffer/right-of-way from the edge of the highway to the right-of-way boundary. Millennium has estimated that installation of the pipeline along the Palisades would require the clearing of approximately 15 to 20 feet of trees or approximately 2 acres per mile, an estimate with which O'Brien & Gere concurs. This clearing of 15 to 20 fee of trees and other ground cover would result in a work

zone that would be approximately 35 to 40 feet in width. In the portions of this alternative where roads cross over or under the Palisades, the proposed pipeline could be installed by a conventional bore or jacked operation across these roads so that traffic will not be impacted.

Within the Tennessee right-of-way, the method of construction would be to install the Millennium pipeline 15 feet from the existing 24-inch Tennessee pipeline. Preliminary information indicates that the Tennessee right-of-way is 50 feet wide, and the existing pipe is set in the middle of the right-of-way. Therefore, the proposed pipe would be located 10 feet from the edge of the existing right-of-way; this would require securing 20 feet of additional right-of-way for approximately 1.3 miles in Rockland County and for 2.3 miles in Westchester County.

The Hudson River crossing could be accomplished either with the "open-cut lay barge" method or by directional drill. As there are 0.5 acres available on the west side of the River and one acre available on the east side of the river, there is adequate room to stage and execute a directional drilled crossing at this location.

Cost Estimate

The Palisades/Dobbs Ferry Alternative 1 is not only a viable alternative, but it is in fact shorter and less expensive than the pipeline route that Millennium has proposed. In fact, O'Brien & Gere estimate that utilizing the Palisades/Dobbs Ferry Alternative 1 would result in a construction cost savings of roughly $10 to $25 million.

O'Brien & Gere's calculations are based on Millennium's own estimates. Millennium estimated an average cost of $1,937,573 per mile for construction of the Proposed Route through Rockland and Westchester Counties.[128] In order to account for additional planning, land

[128] *See* Application of Millennium Pipeline Company, LP, at Docket No. CP98-150-000 (filed Dec. 22, 1997) Exhibit K, Docket No. CP98-150-000, "Millennium Pipeline Company, L.P., Cost of Facilities."

acquisition, and engineering costs that would be incurred to implement this proposed alternative, O'Brien & Gere's evaluation contemplates a conservative 50% differential increase in construction costs. For the purposes of its evaluation, O'Brien & Gere therefore estimated construction costs to be $2,906,000 per mile. With a total length of 16.7 miles, the construction cost of the Palisades/Dobbs Ferry Alternative 1 would be approximately $49 million. The corresponding cost of the Proposed Route from Bowline Point to the vicinity of Dobbs Ferry would be approximately $59 million dollars using Millennium's average cost per mile of $1,937,573. Accordingly, the Palisades Parkway/Dobbs Ferry Alternative results in a savings of $10 million based on the conservative .5 times increase, or a savings of $25 million using Millennium's own cost estimates.

Environmental Impacts

Besides being shorter and less costly, the Palisades Parkway Dobbs Ferry Alternative 1 route is also better for New York's coastal resources. O'Brien & Gere conducted a screening level assessment of the relative environmental impacts of this alternative and the Proposed Route. Their findings, described in more detail in the attached report, indicate that the Palisades/Dobbs Ferry Alternative 1 would have relatively minor adverse consequences overall, in comparison to the substantially detrimental impacts that would result from the current Proposed Route.

Unlike the Proposed Route, this alternative would utilize (as NYSDOS has recommended) existing pipeline rights-of-way for the installation of the Millennium pipeline specifically, the existing Palisades Parkway and Tennessee pipeline rights-of-way — to minimize the environmental impacts. Land uses adjacent to these rights-of-way are similar to those found along the Proposed Route, and are predominantly mixed open space and residential.

O'Brien & Gere indicates that there is generally ample space within these rights-of-way so as not to incur significant disturbances to residential areas during construction and operation of the pipeline.

This alternative would also cause no direct impacts to wells, as opposed to Millennium's proposed alignment, which traverses immediately through the Village's Wellfield. With regard to surface and ground water resource impacts, O'Brien & Gere reports that there are no mapped wells or ground water zones near this alternative route in Westchester County. In Rockland County, the route may pass in the vicinity of a small number of private wells in Orangetown, but O'Brien & Gere states that these mapped wells appear to be offset from the Palisades, and thus would not be impacted by this alternative.

This alternative would moreover have less of an overall impact on streams and water resources than the Proposed Route. Based on County mapping information, O'Brien & Gere identified a number of streams and jurisdictional wetlands that would potentially be impacted by the use of this alternative. The OBG Alternatives Report describes each of these areas in detail, and concludes that the streams to be crossed with this alternative would represent a less significant overall impact than the streams and water sources that would be crossed under Millennium's proposed route, including the Croton River, several crossings of the Saw Mill River, and tributaries to the New Croton Reservoir, a New York City drinking water supply source. Similarly, O'Brien & Gere found that wetlands along the alternative do not appear to be as ecologically significant or functional valuable as those along the Proposed Route.

In sum, the Palisades/Dobbs Ferry Alternative 1 presents a viable and cost effective alternative from a technical standpoint, would avoid all impacts to coastal resources associated with the Proposed Route, and would result in a reduced level of upland environmental impacts

overall relative to the Proposed Route. Existing right-of-ways are used, thus furthering the CZMA goal of siting of new facilities within existing development corridors and reducing impacts on pristine, unspoiled areas. Because this alternative route presents an available, reasonable alternative that is consistent with the enforceable policies of the CZMA, the Secretary should uphold the NYSDOS Objection.

2. The Palisades/Dobbs Ferry Alternative 2

The "Palisades/Dobbs Ferry Alternative 2" is a variation on the above alternative which generally utilizes the Penn Central railroad and Tennessee rights-of-way and crosses the Hudson River at Dobbs Ferry. It too avoids the significant environmental impacts to New York's coastal resources associated with the Proposed Route. It is also shorter and potentially less costly than the route that Millennium has proposed.

Route Description

This alternative originates at the point where the old Penn Central Railroad right-of-way intersects I-287 in a North/South direction. The pipeline would follow the East Side of the railroad right-of-way south until it intersects with the existing Tennessee right-of-way. The route then proceeds east along the Tennessee right-of-way for 2.7 miles to the west bank of the Hudson River. From this point, the alignment is identical to the Palisades/Dobbs Ferry Alternative 1 The total length of the Palisades/Dobbs Ferry Alternative 2 route is approximately 18.5 miles, 2.1 miles longer than the Palisades/Dobbs Ferry Alternative 1, but still shorter than Millennium's current proposed route.

Construction Method

The pipeline would be installed within a casing approximately 30 feet from the center line of the railroad tracks, with a slightly deeper cover than that required for works parallel to highways. The work zone would be approximately 40 feet wide, which would require the

securing of temporary construction easements in selected areas along the railroad rights-of-way. Because the right-of-way width varies from 50 feet to 130 feet, O'Brien & Gere reports that there is ample installation space within the right-of-way.

Cost Estimate

Like many of the other alternatives identified in O'Brien & Gere's report, this alternative route is shorter and likely to be less costly than the route that Millennium has proposed. As described in their report, O'Brien & Gere apply an average cost per mile estimate of $2,906,000 (fifty percent more than Millennium's per mile cost estimate of $1,937,573) to all areas of the alternative route, except the crossing of the railroad right-of-way, which O'Brien & Gere estimate would cost $3,800,000 per mile. Using these figures, O'Brien & Gere estimates that the Palisade/Dobbs Ferry Alternative 2 would cost approximately $59 million, or roughly the same cost as Millennium's Proposed Route for the corresponding segment from Bowline Point to the vicinity of Dobbs Ferry. O'Brien & Gere states, however, that because their estimates are based on conservative per mile guidelines, the actual cost of this alternative is likely to be less than Millennium's Proposed Route.

Environmental Impacts

This alternative is not only viable, but will also have less environmental impacts. Unlike the Proposed Route, which would impact relatively undisturbed natural areas, this alternative is located predominantly within the existing Penn Central railroad and Tennessee pipeline rights-of-way. Moreover, O'Brien & Gere has determined that there is ample space within the Penn Central right-of-way for the pipeline, so major disturbances to residential areas during construction and operation would not be necessary. Land use along the portions of this

alternative from the Palisades to the Saw Mill River intersection is the same as that described for the Palisades/Dobbs Ferry Alternative

This alternative also would have less impacts to surface and groundwater resources than the Proposed Route. To be sure, O'Brien & Gere reports that this alternative appears to pass within several hundred feet of three private wells in the Towns of Clarkstown and Orangetown. But the mapped wells appear to be offset from the railroad right-of-way and the pipeline route, and O'Brien & Gere conclude that there would not be any direct impacts to wells along this proposed alternative. Likewise, O'Brien & Gere report that although wetlands and streams would be crossed along this alternative, the impacts would be relatively insignificant compared to the Proposed Route.

In sum, as O'Brien & Gere concludes the Palisades/Dobbs Ferry Alternative 2 would be preferable to Millennium's Proposed Route because it is technically feasible, avoids impacts to sensitive environmental resources, and is equal to or possibly less expensive in cost than Millennium's proposed route. The Palisades/Dobbs Ferry Alternative 2, therefore presents a viable alternative with a significant net reduction in environmental impacts. It too is an independent and sufficient reason for the Secretary to uphold the NYSDOS Objection.

3. Clarkstown/Route 117 Alternative

The Clarkstown/Route 117 Alternative is a modified version of a route that was identified by the Village in its comments to FERC, but was never evaluated in the FEIS. This alternative involves a new route through Clarkstown on the west bank of the Hudson River leading to a point in Nyack Beach Park approximately five miles north of the Tappan Zee Bridge, where the pipeline would cross the Hudson River and join Route 7 on the east side of the Hudson River. This alternative is viable, shorter, and again less costly than Millennium's Proposed Route. Moreover, because it avoids protected coastal resources, such as Haverstraw Bay, the Village's

Wellfield, and the Arboretum, it has significantly less environmental impacts than Millennium's Propose Route.

Route Description

As identified by O'Brien & Gere, this route would track the Tappan Zee Bridge alternative discussed in the FEIS until it reaches the State Route 303 intersection in Nyack There, the route would proceed north/northeast until reaching the southern extremity of Nyack Beach Park From there, Millennium would commence a lay barge pipeline crossing operation to cross the Hudson River. The pipeline would proceed across the Hudson River for a distance of approximately 12,000 feet to the Rockwood Hall State Park in Westchester County. From there, the pipeline would follow the alignment referred to as the "Route 117 Alternative" in the FEIS.

This variation of the Millennium Pipeline alignment avoids the impact to the Memorial Park and Village streets in the Village of Nyack and construction of the pipeline from the Village to a point where Route 17 intersects the Taconic State Park. The impacts to the Village's drinking water well field are avoided, as are impacts to sensitive ecological resources in the vicinity of the Village. The total length of this alternative is 15.6 miles, while the corresponding length of Millennium's proposed route from Bowline to the Route 117 point of intersection is approximately 26.3 miles. The route is therefore approximately 10.7 miles shorter than that proposed by Millennium

Construction Method

At the point where the Hudson River South, Clarkstown, Route 7 Alternative leaves I-287, the pipeline would be constructed in a six foot deep trench located approximately 10 feet from the edge of the southbound shoulder of Route 303 A 36-inch steel casing would be

installed beneath Route 303 at the point of crossing by a conventional bored method and the 24-inch diameter gas line inserted within the 36-inch casing. Once the pipe is across Route 303, the pipe would be installed in the center of a 50-foot wide easement until it reached the point of crossing the Hudson River in the south end of Nyack Beach Park.

The river crossing installation would be performed by the lay barge technique to the eastern bank for a distance of approximately 2.3 miles. The Metro Rail Tracks could be crossed with a directional drilling technique that would require "stringing" the pipe in the River and pulling the pipe eastward into the Rockwood Park, or by a conventional bore and jack technique. The balance of the alignment through the Rockwood Park would be installed in a six foot deep trench within a 30-foot easement to Route 9 where the pipeline would be installed by a bore method in a 36-inch diameter casing. The balance of the route (2.8 miles) would be installed adjacent to the North side of Route 117 keeping a minimum separator between the west bound lane and the pipe of approximately 20 feet. O'Brien & Gere states that the construction methods proposed for this alternative are fully feasible.

Cost Estimates

As O'Brien & Gere have concluded, the Clarkstown/Route 117 Alternative is a viable alternative that could potentially result in millions in savings. In their report, O'Brien & Gere apply their 1.5 times average cost per mile estimate for roadside construction ($2,906,000) to approximately 10.7 miles of this route, and the average cost for areas outside of roadways ($1,938,000) to 4.9 miles. Using these estimates, O'Brien & Gere have calculated that the cost for the Hudson River South, Clarkstown, Route 117 Alternative is approximately $40.3 million. By contrast, the estimated cost of the corresponding 26.3-mile Millennium route would be $50.9 million, or at least $10 million more than this alternative.

Environmental Impacts

This alternative also has less environmental impacts than Millennium's Proposed Route. Most significantly, this alternative route would avoid critical coastal zone resources, including Haverstraw Bay, the Village's water supply well field, and the Arboretum on the east shore of the Hudson River, without substituting equivalent impacts elsewhere.

There are several other reasons why this alternative will result in less environmental impacts. For example, the observed and mapped land uses along this alternative consist of predominantly residential and vacant lands, which are similar to the land uses found along Millennium's Proposed Route. Similarly, O'Brien & Gere report that, unlike Millennium's Proposed Route, there do not appear to be any direct impacts to ground water wells along this proposed alternative. O'Brien & Gere also indicate that there are no listed state freshwater wetlands along this alternative, and that the number of small ponds depicted on County maps could be avoided through site-specific realignments. Any incidental minor stream crossings required by this alternative would result in significantly less impact than Millennium's Proposed Route.

The Clarkstown/Route 117 Alternative is therefore a viable and cost effective alternative from a technical standpoint that would avoid all impacts to coastal resources associated with the Proposed Route and result in a reduced level of upland environmental impacts overall relative to the Proposed Route. Because this alternative route presents an available, reasonable alternative that is consistent with the enforceable policies of the CZMA, it too provides an independent basis for the Secretary to uphold the NYSDOS Objection.

4. Hudson River North Alternatives 1 and 2

Alternatives that involve crossing the Hudson River to the north of the current Proposed Route were developed and reviewed in the FEIS to avoid impacts to Haverstraw Bay, but were

then dismissed from further consideration by FERC. NYSDOS properly found that crossing the Hudson River north of Haverstraw Bay near or adjacent to the existing Algonquin Pipeline crossing of the Hudson River was a reasonable and available alternative to the Proposed Route. O'Brien & Gere also explored the Hudson North Alternatives, and found them both to be feasible. In its brief, Millennium argues that this alternative is "technically infeasible,"[129] relying on the purported lack of adequate staging areas and congestion. The OBG Alternatives Report, however, directly rebuts Millennium's argument, finding that the route is feasible from an engineering and cost standpoint, that adequate staging areas are clearly available, and that any issues with congestion could be addressed by routing and methodology.

The upland portions of the Hudson River North Alternatives 1 and 2 are described in detail in the FEIS, as well in the attached O'Brien & Gere Report. The discussion here focuses on O'Brien & Gere's reassessment of the main conclusions of the FEIS with respect to the technical feasibility of this alternative.

Millennium concluded that Alternatives 1 and 2 would not be feasible for the following reasons: (1) several subdivisions are in close proximity to the existing ConEd and Algonquin rights-of-way; (2) the proposed route could not follow the existing ConEd and Algonquin rights-of-way; and (3) the subdivisions would therefore require a reroute. O'Brien & Gere initially responded to Millennium's conclusions stating that in some areas adjacent to homes, specialized construction techniques could be used to install the pipe. One suggested technique would be to construct the pipeline on the opposite side of the existing right-of-way placing it further from existing homes. To avoid significant impacts to slopes where they exist, O'Brien & Gere

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[129] Millennium Initial Brief at 101

suggests that a modified bench of approximately 12 feet in width could be cut into the bank, and the pipe installed in this bench using the stove pipe method. In other areas, O'Brien & Gere suggests that the proposed pipe could be located closer to the existing Algonquin pipelines and constructed using the stove pipe method which requires a 35 to 40 wide construction zone in lieu of the cross county installation width of 75 feet. Additionally, the directional drill technique could be used to minimize construction in close proximity to homes.

FERC determined in the FEIS that the alternative between Route 9W and the west bank of the Hudson River would not be feasible, stating:

> Alternative 1 would be in an area that is extremely congested and also characterized by steep slope. In addition to the Algonquin pipelines there are powerlines. Parallel to the Hudson River, there are a two-lane road, two tracks for an active railroad at the river edge, and possibly a water line. Because there is also a residence in this area and Algonquin aboveground facilities (pig launcher/receiver and block valves), Millennium states that there would not be enough work space to stage either a conventional or a directionally drilled crossing. In addition, because of the length of the crossing (1.0 mile), a directional drill at this location would probably be infeasible because setback from the river for staging and to allow for the required pipe curvature and drilling depth would make the length of a directional drill beyond technical capabilities.[130]

While the area is not suitable for the siting of directional drilling equipment that is required to drill a hole and pull the pipe back from the east side of the River, there is room to stage a lay barge operation combined with a conventional bored and cased crossing of the frontage road and railroad tracks. The lay barge staging area requires an area of approximately 150 foot by 150 foot. This stretch of the Hudson River is not as sensitive ecologically as Haverstraw bay and, therefore, a lay barge crossing would be appropriate at this location.

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[130] FEIS at 6-4.

The FEIS further claimed:

> On the east bank of the Hudson River, Alternative 1 would be between the Indian Point Nuclear Generating Station and the LaFarge Gypsum Plant. This area also has limited work space because of the existing industrial facilities, the steep, rock faced shoreline, Algonquin's aboveground facilities (mainline valves), a natural drainage and associated wetlands, and ship moorings along a second drainage. Beyond the east shore, the alternative would include crossing State Route 9A (with a bride crossing), a railroad, and commercial and residential development areas.[131]

As identified in the O'Brien & Gere Report, however, there is an open area south of the LaFarge Gypsum Plant that could be used as a staging area to accommodate a lay barge method of crossing the River. The FEIS was therefore, as NYSDOS recognized, incorrect.

FERC also makes the following comments regarding the Hudson River North Alternative 2:

> Alternative 2 would require significant amounts of in-street construction through existing and developing residential subdivisions under development. It would also have the same problems with staging the crossing of the Hudson River, and it would have the same land use impacts as Alternative 1 from a point about 0.7 mile northeast of the Palisades Interstate Parkway across the Hudson River to the interconnection with the proposed route near MP 391.7, since both would follow the same path. Because of these issues, we do not recommend further analysis of the feasibility or use of this alternative.[132]

Notwithstanding the above, construction within residential streets can be performed using the stove pipe or sewer line method of installing one section of pipe at a time. This type of construction requires more special conditions than cross county type of construction (*i.e.*, existing utility support or relocation, traffic control, limited working time, and more complex restoration types) but is nonetheless feasible from a construction standpoint. Millennium could

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[131] *Id.*

[132] *Id.* at 6-5.

construct portions of its proposed route through streets in Westchester County and can use the same technique along Alternative 2. The in-street construction is significantly more expensive than the average cost per foot for the Millennium project, but these costs must be balanced against the avoidance of crossing Haverstraw Bay and the lower cost of the shorter crossing of the Hudson River for Alternatives 1 and 2.

Therefore, as all of Millennium's and FERC's claims of infeasibility fail, both Hudson River North Alternatives 1 and 2 are viable and reasonable alternatives that are consistent with the CZMA and result in fewer adverse impacts to the environment.

5. Navigation Channel Alternative

The Navigation Channel Alternative is another routing alternative that has been completely overlooked by FERC and Millennium. It nonetheless is another available alternative that the Secretary should consider, and can rely on to uphold the NYSDOS' Objection. The Navigation Channel Alternative involves the utilization of the dredged navigation channel in the middle of the Hudson River to install the pipeline. Although this alternative would involve impacts to limited areas of the maintenance channel in Haverstraw Bay, this alternative would avoid construction and blasting in the more ecologically sensitive, untouched eastern portions of Haverstraw Bay, in addition to avoiding the Village's Well Field and the Arboretum.

Route Description

The alignment would begin at a point of connection to the existing 24-inch gas pipeline at Bowline Point and proceed north for approximately 0.6 miles to a point of crossing on the west bank of the Hudson River. From that west bank, the pipeline would proceed due east for approximately 7,500 feet (1.42 miles) out to the Navigation Channel, an artificially maintained deep channel running north/south up the Hudson River, including Haverstraw bay. From there,

the pipeline would run in the center of the navigation channel, south for approximately six miles to a point where it would join the Clarkstown/Route 117 alternative. The balance of the Navigation Channel Alternative would follow the Clarkstown/Route117 alignment for a distance of approximately 4.7 miles. The upland portion of the alignment in Westchester County would be the same as that described in the Hudson River South, Clarkstown, Route 117 Alternative. The total length of this route is approximately 13.2 miles.

Construction Method

The method of construction for the in-river portion would be lay barge method as described by FERC in the FEIS. The directional drill method would also be feasible for the sections between the Navigation Channel and the west and east banks of the River conditioned upon receiving permission to string the pipe in the River and pull from both banks.

Cost Estimates

The estimated cost for the Navigation Channel Alternative is $72.9 million — more than the $59 million estimated cost of Millennium's Proposed Route. The fact that the costs may be somewhat higher for the alternative, however, does not render the alternative unreasonable or unavailable. To the contrary, the increased costs of this alternative are more than justified by the significant impacts that would be avoided to onshore environmental resources along the east bank of the Hudson River. Moreover, in light of the revenues that Millennium expects to generate from the pipeline, and the total cost of constructing the pipeline ($683 million), the additional cost of adopting the Navigation Channel Alternative is small.

Environmental Impacts

This alternative is superior in terms of environmental impact to Millennium's Proposed Route because it avoids damaging sensitive portions of the Haverstraw Bay, and would not impact the Village's Well Field or the Jane E. Lytle Memorial Arboretum. Much of the in-river construction for this alternative would take place in the Bay's navigation channel. The navigation channel has already been previously disturbed by routine maintenance dredging. Moreover, because the in-river construction would not occur in the shallow portions in the eastern part of the Bay, there is significantly less risk that carcinogenic or toxic pollutants will be disturbed and resuspended into the waters of the Bay and River.

6. Terminate The Pipeline At Bowline Point.

One option that a number of parties have proposed, including the NYSDOS in its consistency objection, is to terminate the Millennium pipeline at Bowline Point, before the pipeline crosses the Hudson River. This would avoid placing the pipeline in environmentally sensitive areas and would allow Millennium to deliver half of its projected capacity directly. This alternative is clearly available and serves the purpose of the project, whether that purpose be to "construct . a natural gas pipeline" as enunciated by NYSDOS[133], or "to serve critical natural gas requirements in New York City" as proffered by Millennium.[134] When NOAA revised its regulations two years ago, it noted that "[t]he Secretary is limited in consideration to reasonable alternatives that meet in whole *or in part* the appellant's purpose."[135] Therefore, the entire

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[133] NYSDOS Objection at 3.

[134] Millennium Initial Brief at 98.

[135] 65 Fed. Reg. 77151 (December 8, 2000) (emphasis added).

purpose of Millennium's project does not need to be served by a specific alternative in order for it to be upheld as an available and reasonable alternative.

Millennium *admits* that it would be "physically possible for Millennium to terminate the Project on the west side of the Hudson River, and thus [this] alternative . . . is 'available' in that theoretical respect."[136] Millennium nonetheless argues that "the Project's essential purpose is to serve New York City markets, and that the fundamental purpose could not be achieved if the Project were terminated on the western shore of the Hudson River.[137]

Millennium's claim that the primary purpose of the pipeline is to serve New York City is unsupported. At least half of the capacity is delivered prior to reaching New York City, and the description of the purpose in the FEIS does not mention serving New York City. In the "purpose and needs" section of the FEIS, the project is described as "the most economic and efficient means to transport U.S. and Canadian gas to growth markets in the eastern U.S., including Pennsylvania, New York, and New Jersey." This section does not specifically state that the pipeline is designed to serve New York City.[138] Moreover, the majority of the delivery points are located east of the Hudson River. In fact, in an earlier pleading, Millennium itself stated that "the fundamental purpose of the Project is to transport up to 700,000 dekatherms of natural gas per day to various delivery points in New York State."[139]

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[136] Millennium Initial Brief at 98.

[137] *Id.*

[138] FEIS at 1-4.

[139] Millennium Filing at 6.

Millennium thus cannot legitimately claim that the purpose of its proposed project is to serve New York City markets. Rather, the purpose of the pipeline is to serve the larger Northeast market. Terminating at Bowline, therefore, is a reasonable alternative because it would permit Millennium to serve the New York (and larger Northeastern) markets without impairing environmentally sensitive coastal areas.

Millennium also alleges that terminating the project at Bowline Point would make the project uneconomic: "[b]uilding 90% of the pipeline (390 miles) to deliver 50% of the pipeline's capacity would not even permit the recovery of costs and thus would never be seriously considered."[140] But Millennium fails to provide the proper support for this contention. Eliminating the facilities west of the Hudson River will decrease the cost of the pipeline. Because Millennium is proposing to collect its costs through its recourse rate, which is established by taking the cost of the pipeline (plus a rate of return) and dividing that number by the throughput of its pipeline, for Millennium to argue credibly that the project would not be economically viable, it must recalculate its rates with the new figures and show that the rates are no longer competitive with other transportation options. If the need for this pipeline is as great as Millennium claims, then the rates are still likely to be competitive. Regardless, because Millennium provides no support for its claim, NYSDOS' Objection should be upheld.

7. Directional Drill of Haverstraw Bay

In addition to the alternatives discussed above, Millennium could decrease the dramatic environmental impacts on New York's coastal resources by using directional drilling to cross the Haverstraw Bay. As O'Brien & Gere explain in their report, a directional drilled crossing of

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[140] Millennium Initial Brief at 99.

Haverstraw Bay would involve drilling a small diameter pilot hole underneath the Bay and then enlarging the pilot hole until the hole is large enough to accommodate the pipe.

Millennium argues that a directional drilled crossing of Haverstraw Bay is not feasible because (1) the proposed crossing would be 2.1 miles long, making directional drilling infeasible as a construction option; and (2) there is inadequate room on either side of Haverstraw Bay to string a 2.1 long section of 24-inch steel pipe. O'Brien & Gere's report, however, shows that Millennium is wrong.

Millennium O'Brien & Gere's investigation of the use of the directional drilled technique included consultations with Cherrington Corporation of Sacramento, California, an experienced directional drilling contractor and a recognized expert in the industry. O'Brien & Gere also consulted with Mueser Rutledge Consulting Engineers, Inc. of New York City, a firm with extensive experience with subsurface exploration and the Hudson River area. Mueser Rutledge furnished subsurface information on other projects in the vicinity of the Millennium proposed crossing of the Hudson River.

Cherrington reviewed the geotechnical information on the Hudson River, and conducted a preliminary analysis of the Haverstraw Bay crossing using two methodologies the enhanced conventional horizontal directional drill ("enhanced HDD") system and the environmentally beneficial bore ("EBB") system. Cherrington Corporation indicated that, due to the length of the crossing, a directional drill of Haverstraw Bay was outside the realm of conventional HDD technology. Nonetheless, Cherrington concluded that with specific enhancements to the conventional HDD technology, an 11,000-foot crossing could be achieved, although subject to potential fracturing out of drilling mud. Cherrington also concluded that by using EBB System technology a crossing of 11,000 feet and beyond could be achieved while at the same time

substantially reducing the risk of drilling mud releases. With regards to the availability of staging area, Cherrington also concluded that with improvements in equipment, it would be possible to assemble the 24-inch pipe in 1,000 foot sections as it is being pulled across the River, rather than in one single length of pipe. O'Brien & Gere report that, using this stringing method, there is ample room on the east side of Haverstraw Bay in the VA Hospital Grounds to permit the staging for the implementation of a directional drilled crossing.

The cost for directional drilling ranges from 2 to 2.5 times that of an open cut, lay barge method, which in the case of Haverstraw Bay could be $12 to $15 million in additional cost over the lay barge method. This added cost would have to weighed against the significant benefit of avoiding sensitive ecological resources in Haverstraw Bay.

8. Partial Directional Drill of Haverstraw Bay

The option of using directional drilling for a portion of the Hudson River crossing was evaluated and dismissed in the FEIS.[141] Millennium contends that a directional drill of the shorelines is neither a feasible nor reasonable option O'Brien & Gere's report, however, addresses all of Millennium's concerns and shows why Millennium's position is wrong. As O'Brien & Gere have explained, the maintenance of the exit hole and the likelihood of a successful installation could be enhanced by drilling from the east and west banks with the exit hole in the middle of the River. Moreover, contrary to Millenniums' position, there is ample room available on both banks of Haverstraw Bay to stage a partial directional drilled crossing of two separate sections of pipe each approximately 5,500 feet long. Also, there is adequate land available within the Franklin D. Roosevelt Veteran Hospital grounds to permit the grading

[141] FEIS at 5-57.

required to set the drilling equipment. The release of drilling mud into the Bay -- an issue that Millennium has raised -- should be formerly addressed by the appropriate regulatory agencies, which has not been done so to date. Finally, since there will not be a surface disturbance to the more sensitive shoreline areas of the Bay, the duration of a directionally drilled crossing may not be critical.

The estimated cost of the partial River crossing is approximately the same as a full crossing. This cost is estimated to be between $20 to $25 million for Haverstraw Bay. The implementation of this method, however, would avoid the sensitive ecological resources in Haverstraw Bay.

A partial crossing of the Hudson River could be used to cross the eastern portion of Haverstraw Bay only, with use of the open cut (lay barge) method for the balance of the crossing. This plan would minimize the impacts of blasting and other impacts caused by open cutting the eastern portion of the Bay.

Partial drilling could also be used to reach the navigation channel for the Navigational Channel Route Alternative. This application would be especially beneficial to drill from the Rockefeller Preserve beneath the railroad and steep River banks to the center of the River.

9. System Alternatives

In its Consistency Objection, NYSDOS suggests Millennium use the excess capacity in the existing Algonquin pipeline. Additionally, during the EIS review process, Algonquin Gas Transmission Company ("Algonquin") and Texas Eastern Transmission, LP ("Texas Eastern") proposed to supply the same markets at the same capacity levels by (a) using "turnback" capacity and (b) expanding their current facilities. In the FEIS, the FERC determined that relying on turnback capacity was too speculative and, instead, analyzed this alternative as though all

700,000 Dth/D of capacity would result from system expansion. According to Millennium, "these reasoned findings by the lead Federal agency that is responsible for making interstate pipeline routing decisions are entitled to deference."[142]

In fact, however, FERC's FEIS findings are not entitled to deference in a CZMA-related appeal of a state agency's decision. FERC's analysis relied on three prongs: first, it ignored the potential use of turnback capacity; second, its review required that the Algonquin/Texas Eastern expansion provide for 700,000 Dth/D of capacity; and third, it based its decision purely on the costs of the necessary expansions versus the cost of building the Millennium project.

All three prongs are flawed. First, the pipelines themselves stated that they believed that there would likely be substantial turnback capacity in the future, and the pipelines are in the best position to make such a determination. Second, the decision to require that Algonquin/Texas Eastern supply 700,000 Dth/D of capacity was arbitrary, especially given the fact that not all of the capacity has been subscribed. Third, the FERC's analysis considered the economic costs of constructing new Algonquin/Texas Eastern facilities compared to the costs of the Millennium project, which may be appropriate for the FERC's review. However, for purposes of the CZMA, the proper question is whether there is a reasonable alternative. While costs may play a role in determining what is reasonable, there is no requirement that the alternative cost less than the original proposal. Simply put, Millennium's terse statement that FERC's analysis is entitled to deference does not satisfy its burden of proof in this proceeding.

Finally, as noted above, several existing pipelines are expanding their systems to meet the region's, and New York City's natural gas needs. This suggests strongly that using existing

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142 *See* Millennium Initial Brief at 24.

pipeline systems to meet the purposes of this project are viable, and, in fact, currently being proposed.

Millennium could also combine this alternative with stopping at Bowline Point as yet another viable alternative. For example, Millennium could construct its pipeline to Bowline Point; while Algonquin/Texas Eastern could partially expand their systems to accommodate additional Millennium needs. A combination approach might lead to the lowest overall costs, least environmental harm, and maximization of existing pipelines while simultaneously meeting the needs of the Northeast and New York City markets. Millennium's Initial Brief does not discuss some type of combination-alternative that builds on the strengths of each individual proposal.

In sum, there are a large number of alternatives that have been identified by the NYSDOS and the Village that are technically feasible, reasonable, available, and which would serve the fundamental purpose of the Project without adversely impacting important coastal resources such as Haverstraw Bay, the Village's Wellfield, and the Arboretum. Millennium has failed to meet the burden the demonstrating that these other options are unreasonable.[143] Accordingly, the Secretary must uphold the NYSDOS Objection.

10. Westchester Upland Alternatives

With regard to the Proposed Route through the Village Wellfield and Arboretum, there are reasonable minor realignment alternatives that may be acceptable and consistent with the CZMA. The Village requests that the Secretary also consider these following realignments:

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[143] *Korea Drilling* at 22-23.

With regard to the Proposed Route through the upland portions of the Village, *i.e.*, Wellfield and Arboretum, there are reasonable alternatives that may allow the Project to proceed in a manner consistent with the CZMA. The following alternative s should be considered as part of the Secretary's review of Element 3 in the event that (a) the Secretary finds either the North Hudson Alternative or any of the modified Haverstraw Bay crossings to be reasonable alternatives, thereby necessitating the location of the pipeline in or near to the Village; or (b) the Secretary finds that there is no reasonable alternative to the proposed Haverstraw Bay crossing route but may still consider alternatives to avoid other coastal resources which were the subject of the NYSDOS Objection.

Wellfield

As discussed above, no construction of any kind (except as relates to water supply uses) is permissible in the "Zone 1" wellhead protection zone pursuant to the Village's LWRP and corresponding enforceable policies. Therefore, for an alternative to be consistent with the CZMA enforceable policies, at a minimum, it must be routed around and outside of Zone 1 (even within "Zone 2," however, certain other conditions will apply). There is one potential alternative route that would avoid Zone 1 of the Wellfield. This route would circumvent the Wellfield to the northeast for a distance of approximately 2000 feet and rejoin the Proposed Route on the opposite side of the Croton River ("Northeast Alignment"). This alternative is depicted in Exhibit 1 of this Brief.

This alternative is approximately 500 feet longer than the Proposed Route, and would place the pipeline approximately 25 feet to the northeast and outside the boundaries of Zone 1, but within Zone 2. The Northeast Alignment would require the securing of a right-of-way 50 feet wide and extensive clearing of trees within the Croton River Gorge. The Northeast

Alignment is estimated to cost approximately $1,937,000 per mile or $734,000 for the additional 2000 feet of pipeline. This is approximately $184,000 more than the Proposed Route not including the right-of-way costs.

Arboretum

With respect to the Arboretum, O'Brien & Gere recommends crossing underneath the Arboretum using the directional drilled method of construction. This would place the pipeline 20 to 40 feet below the surface for a distance of 1000 feet, thus avoiding any disturbance to the surface of the Arboretum. This would require the location of drilling equipment roughly 100 feet west of the Arboretum in a 1-acre area. The pipe will be assembled outside the Arboretum area to the east. The estimated time to complete for this installation will be one month. The advantages to directional drilling this 1000-foot section are that it avoids the removal of the mature forested buffer along the Arboretum boundary with the ConEd right-of-way; impacts to the forested wetland (W08CT) will also be avoided; and there would be a reduction in the disturbance of soils, in both upland and wetland areas. O'Brien & Gere estimate the cost of this alternative to be approximately $800 per foot, or 6 to 10 times the cost of the proposed open-cut method.

Another possibility that should be considered is moving the pipeline route outside of the Arboretum and completely onto the ConEd right-of-way, thus minimizing the level of direct impacts to the Arboretum. The cost of this alternative is not expected to be materially different from the current Proposed Route.